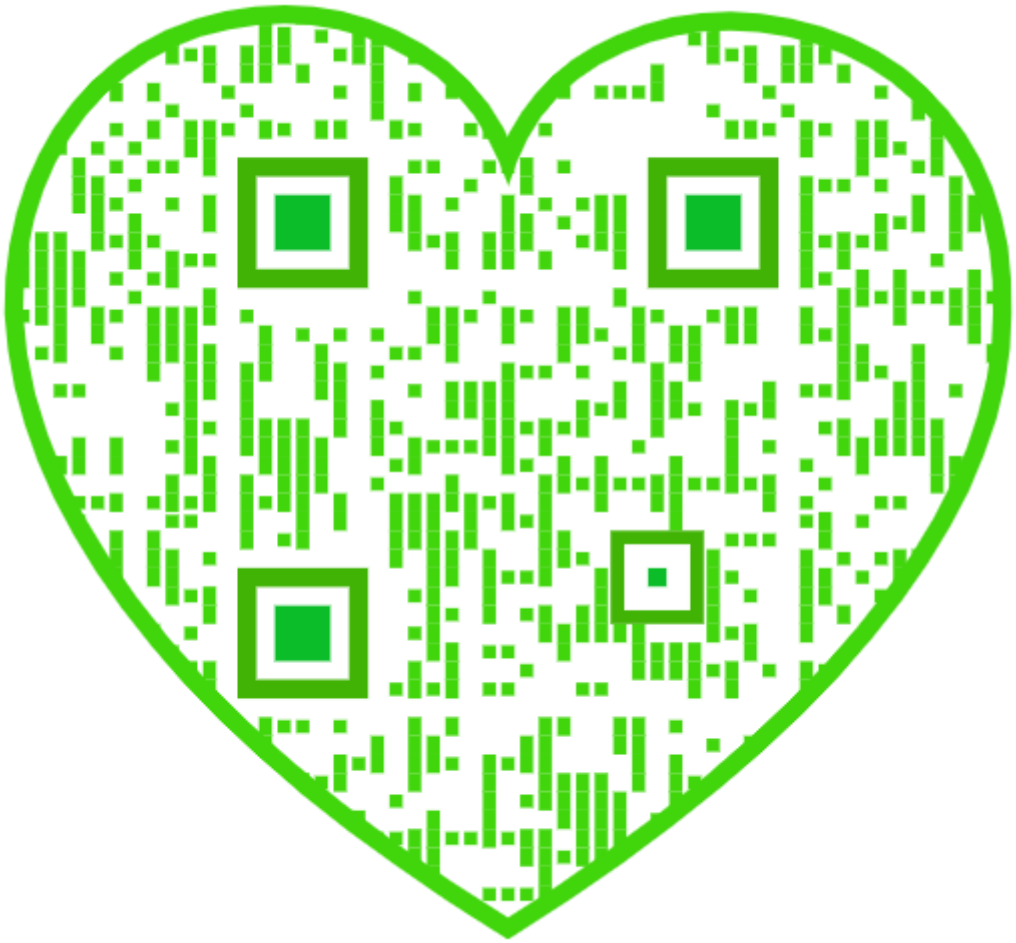

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THE BIBLE IN IRON

OR

The Pictured Stoves and Stove Plates of the Pennsylvania Germans

BY

HENRY C. MERCER

1914

Curator of the Museum of American and Prehistoric Archaeology at the U. of Pa.
1894 - 1897

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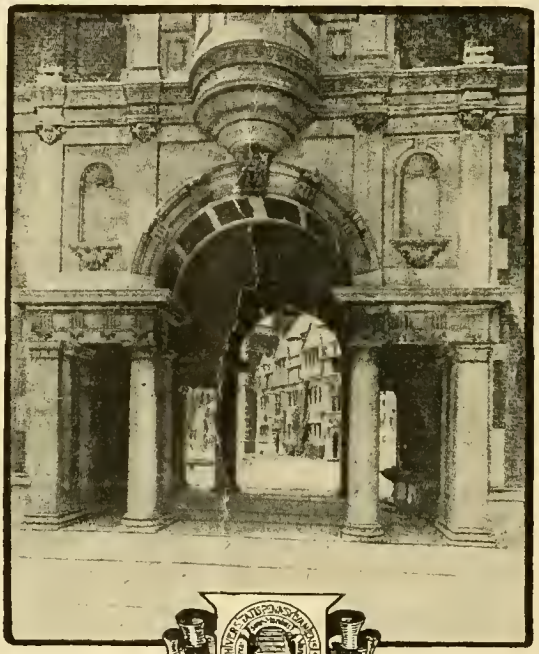

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PREFACE.

The art of making iron stoves decorated with pictures and designs illustrating the teachings of the Bible was brought from Germany to the Anglo-American colonies and survived for half a century on American soil.

Cast in low relief upon the flat and often polished sides of the old stoves, continually confronting the settler and his family at one of the centres of household comfort in winter, the singular patterns, generally explained with inscriptions, telling of the Miracles of Christ and the Prophets, the beauty of Holiness, and the lessons of Vice and Virtue must have impressed many minds. But the effort of the writer has been rather to explain and describe the casters' art which then, as an inheritance from Germany, gradually appeared and suddenly ceased, than to account for the influence of its teaching upon the lives of the colonists and their descendants. Yet, within the last few weeks, a new and unexpected significance has attached itself to these iron pictures, once so full of meaning in the pioneer household, so long forgotten and now at last rescued from the dust of ruins.

For now (October, 1914,) in the midst of the great European conflict, the ancestral land which made them is passing through an hour of trial. Germany, struggling against heavy odds, is cut off from telegraphic communication with the western world, and now when her enemies in America, misreading her history, accuse her of barbarism, these eloquent fragments of iron, made for and by the founders of our country, offer certain evidence of a virtue long ago interwoven with the lives of Germans, who as ancestors of Americans of to-day, lived and died in our midst, yet with the old language on their lips, as devout followers of the teachings of Christianity.

Not as barbarians they brought their heritage of religious Art to our shores; and though we fail to value these remnants of their forgotten work, how shall we forget that here first, across the threshold of race fellowship, they gave to the stranger their beautiful Christmas Tree, which outweighing in influence the words of many Bernhardis, has spread its glittering branches over the whole Anglo Saxon world.

HENRY C. MERCER,

Doylestown, Pennsylvania.

October 5th, 1914.

WAS NICHT ZU GOTTES EHR
AUS GLAUBEN GEHT IST SUNDE
MERK AUF DU FALSCHES HERTZ
VERLIEHRT IHR KEINE STUNDE
DIE UBERKLUGE WELT VER
STEHET DOCH KEINE WAAREN
SIE SUCHT UND FINDET KOTH
UND LÆST DIE PERLEN FAHREN

91.

The Traders.

Right plate of an ancient Pennsylvanian Jamb Stove. Size, H. 29, W. 25. Bucks County Historical Society. Found while the following pages were in press, in October, 1914, on the premises of an old house, near Boyertown, Montgomery County, Pennsylvania, by Mr. A. H. Rice, of Bethlehem, Pennsylvania.

The remarkable plate, which is higher than wide, and the largest of all the stove plates herewith illustrated, is decorated with a large picture, carved in very flat relief, without canopy or border, which fills the entire middle of the pattern.

We seem to be looking at one of the ancient wharves which the German mould carver has tried to represent from memory, or a sketch made, not in Europe, but in old New York, or Colonial Philadelphia, perhaps on the Delaware river, below Frankford, where the whole irregular water front, littered with casks and bales of merchandise, is built of logs rather than stone. A jumble of high wooden gables, with overhanging stories, warehouse doors and roof shelters for pulleys, looks out upon the water. We see a heavy pair of scales, a crane swinging a bale of merchandise into a lighter and two human figures busied in loading a moored sailboat. Another lighter under sail approaches a high-decked ship, which with fluttering flags and reefed sails lies moored in deeper water. Two more sailboats and three row boats appear on the water.

To the distant left on a hillock and across an inlet spanned by a bridge, stands a barn and flanked by two clumps of trees, a house, perhaps a tavern, with extending signboard and the double-wall chimneys characteristic of old Philadelphia.

A very long rhymed inscription filling the entire remaining space of the plate in four lines above, and four below the picture, attacks the vanity, false religion and blindness of the greedy world. It reads.

WAS. NICHT. ZU. GOTTES. EHR.
AUS. GLAUBEN. GEHT. IST. SUNDE.
MERK. AUF. DU. FALSCHES. HERTZ.
VERLIEHRT. IHR. KEINE. STUNDE.

DIE. UBERKLUGE. WELT. VER.
STEHET. DOCH. KEINE. WAAREN.
SIE. SUCHT. UND. FINDET. KOTH.
UND. LAEST. DIE. PERLEN. FAHREN.

Translated:

That which not to God's glory cometh from creed is sin.
Beware false heart, waste thou not an hour.
The over clever world still understands not traffic.
It searches and finds trash, and lets the pearls escape.

When this plate is compared with the Family Quarrel, Fig. 38, several points of similarity appear. Because both plates are higher than wide, lack canopies, show inscriptions both above and below the picture, are correctly and not phonetically spelled, and because both are designed upon a similar plan, very well lettered and with the letters, noticeably the U's and T's similarly formed on both, we may reasonably suppose that the mould carver, probably fresh from Germany, who carved Figure 38, carved this plate also, but because the wooden warehouses and wharves, and particularly the tavern with double chimneys in the style of an American Colonial inn, indicates a scene rather in old Philadelphia, or New York, than Germany, we may infer that the plate, though without date and lacking its companion front, was probably carved in Pennsylvania (for the reasons given on page 42), between 1726 and 1735.

02.

William Bortschent and T. B.

Size W. 24, H. 22¾. Bucks County Historical Society. Found while the present pages were in press, November 13, 1914, by Mr. A. H. Rice, of Bethlehem, Pennsylvania.

Not only the general treatment of the twisted columns, vaults, spandrels, tulip decorations, stars and wheat sheaves of the floral frame work of this plate, and the unexplained initials T. B. set under the canopy; but also the Biblical quotation from Psalms 7: 12 in Luther's Bible (as identified by Dr. J. B. Stoudt) GOTT. IST. EIN. RECHT. God judgeth the righteous, or in the new version, God is a righteous Judge, begun on this plate and continued on the front plate, Figure 139, dated 1760, prove it to have been the companion left side plate for the latter, and cast in the same year.

As explained under Figure 139, because the inscription thus begun on the left plate, and continued but not finished on the front, must have been completed on the right side, not yet found, we may infer that three moulds instead of two were carved to cast this stove, and that when all three of its plates are discovered, the whole stern warning of the Psalmist:

GOTT. IST. EIN. RECHTER. RICHTER. UND. EIN. GOTT. DER. TAGLICH. DROHET.

"God judgeth the righteous, and God is angry with the wicked every day." In the new version, "God is a righteous Judge, yea a God that hath indignation every day." or perhaps as here more literally translated by Luther, "God is a righteous Judge and a God who threateneth every day."

Another interesting feature of the pattern is the puzzling and as yet unexplained name Wilhelm. Bortschent, filling the lower medallion which, as carved on the Tenth Commandment plate, Figure 35, also cast in 1760, appears here almost in fac-simile, showing that the moulds for Figure 02, Figure 139, its companion, and Figure 35, were carved by the same mould carver (for whose name the initials T. B. may perhaps stand), possibly for Berkshire Furnace in the same year, 1760. See Figures 35, 44 and 139.

03.

The Advice of Tobit.

Front plate of Jamb Stove. Size W. 20, H. 24½. Bucks County Historical Society. Found near Macungie, Lehigh County, Pennsylvania, by Mr. A. H. Rice, of Bethlehem, Pennsylvania, in November, 1914, too late for insertion in its proper place.

The very rusty inscription quoted from the Apochryphal Book of Tobit, 4th chapter, 6th verse, in Luther's Bible is one of the admonitions given by the dying Tobit to his son Tobias and reads in the transverse band or cartouche, DEIN. LEBEN LANG. HABE. GOT. and (continued in the lower medallion) VOR. AUGEN. UND. IM. HERZEN., ending probably in the words obliterated by rust, D. BUCH. TOBIAS. 4 CAP. For thy life long, hold God before thine eyes and in thine heart. Book of Tobias, 4th chapter.

When this plate is compared with Figures 90 and 93, but more particularly with Figure 91, a marked similarity appears in the decorative treatment of the double arched canopy set upon twisted columns, the pendant loops decorated with stars, the tulip spandrels, the inscribed plinth or cartouche, and the bent tulip branches at the lower corners flanking the oval frame or medallion, which here as in Figure 91 contains the continued inscription; so that we may infer that the designer who carved the latter three patterns in 1751 and 1752, had carved this plate also at about the same time.

Only one other plate in the collection quotes an Apochryphal Book of the Old Testament, namely Figure 107 to 110, where the inscription there described is from Sirach 8: 7 in Luther's Bible.

04. The Hope of Peace.

Left plate of jamb stove. Size H. 27, W. 22½. Kindly brought to the writer's attention by its owner, Mr. W. E. Montague, of Norristown, Penna., who found it December 4, 1914, near Pottstown, Pa.

The picture shows to the right a female figure with uplifted hands, seated upon and apparently bound by one leg to an anchor, while to the left a blacksmith hammers a sword upon an anvil set upon a block before which, on the ground, lie two crossed swords, a sickle, a third sword, a halberd, and a plowshare.

The scene illustrates the passage in Micah 4: 3 and Isaiah 2: 4: "And they shall beat their swords into plowshares and their spears into pruning hocks and Nation shall not lift up a sword against Nation, neither shall they learn war any more."

But the German rhymed inscription to the right of a circlet of rays, as from the sun, diverging from the upper left corner of the plate, and which fills the remainder of the space above the picture, does not quote the Bible, but reads:

ICH. HOFF. NOCH. EI. DA. SICH. WIRD. EN
NER. BESERN. ZEIT. DEN. ALER. STREIT.

(Translated) "I hope for a better time when all strife shall cease."

A horizontal band divides the pattern into two panels, the upper of which shows warp cracks from the wooden mould running both ways and in the lower of which a circular medallion, as a remarkable exception to all the other pictorial plates in the collection, contains an inscription, not in German, but in English, thus showing the two languages, German and English, on one plate. The English rhyme thus probably composed by a German workman who here quaintly uses the English verb HOPE in a transitive sense, reads:

I HOPE THAT BLESS WHEN HATRED WARRS
SED TIME OF PEACE AND STRIFE SHALL CEASE.
Micah 4.

The undated plate lacks the typical old German bolt notches on its margin as seen upon Fig. 01, and must be of considerably later date than the latter. Real, rather than imaginary war, must have produced it and therefore, in spite of features of resemblance in its style and lettering to Fig. 01 and to Fig. 31, of 1726, it was probably made at least twenty years after the latter, or when, during the French and Indian wars, between 1744 and 1763, the Indians threatened the frontiers of Pennsylvania.

But it is not questions of date or belingual inscription or similarities of lettering and composition that chiefly interest us in this remarkable pattern found latest of all in our collection and here inserted out of place at the last moment, but rather the almost startling coincidence of modern events, with this holy message of a German heart, which thus long ago testing the truth of race brotherhood in a foreign land, turns in friendship to the English language of a fellow colonist, and which out of the dark days of a past war sheds its ray of Divine HOPE upon the now clouded pathway of German and English peoples and their awful conflict of the present.

The Bible in Iron

or

The Pictured Stoves and Stove Plates of The Pennsylvania Germans

with

Notes on Colonial Fire-Backs in the United States, the Ten-Plate Stove, Franklin's Fireplace and the Tile Stoves of the Moravians in Pennsylvania and North Carolina, together with a List of Colonial Furnaces in the United States and Canada.

Profusely illustrated with plates from about 220 original photographs.

by

HENRY C. MERCER,

Author of—"Hill Caves of Yucatan," "Antiquity of Man in Eastern North America," "Light and Fire Making," "Tools of the Nation Maker," "Decorated Stove Plates of the Pennsylvania Germans."

1894-1897 Published for the
Bucks County Historical Society.

McGinty, Doylestown, 1914.

To Benjamin Franklin Fackenthal, Jr.
in grateful memory of abundant and kindly
help, this book is dedicated by the author,
may, 1914.

CHAPTER I.

INTRODUCTION.

The Decorated Iron Stoves of Europe.

Small numbers set above words in the text, refer to notes at the end of the volume. Abbrevations are used as follows: H. height; W. width; L. length. These dimensions are given in inches when not stated in centimeters. H.H.S., Bucks County Historical Society. The abbrevations for authors and works cited under note 1 are there explained.

A large number of remarkable castings in iron have recently come to light in Eastern Pennsylvania, New Jersey and New York. They are heavy, flat rectangular plates, about two feet square, covered with patterns in very low relief, consisting of tulips, flowerpots, sheaves of wheat, stars, medallions and pictorial designs, showing human figures, often inclosed in architectural canopies. Many of them are dated in the later years of the 18th century, and nearly all show inscriptions set in panels or cartouches.

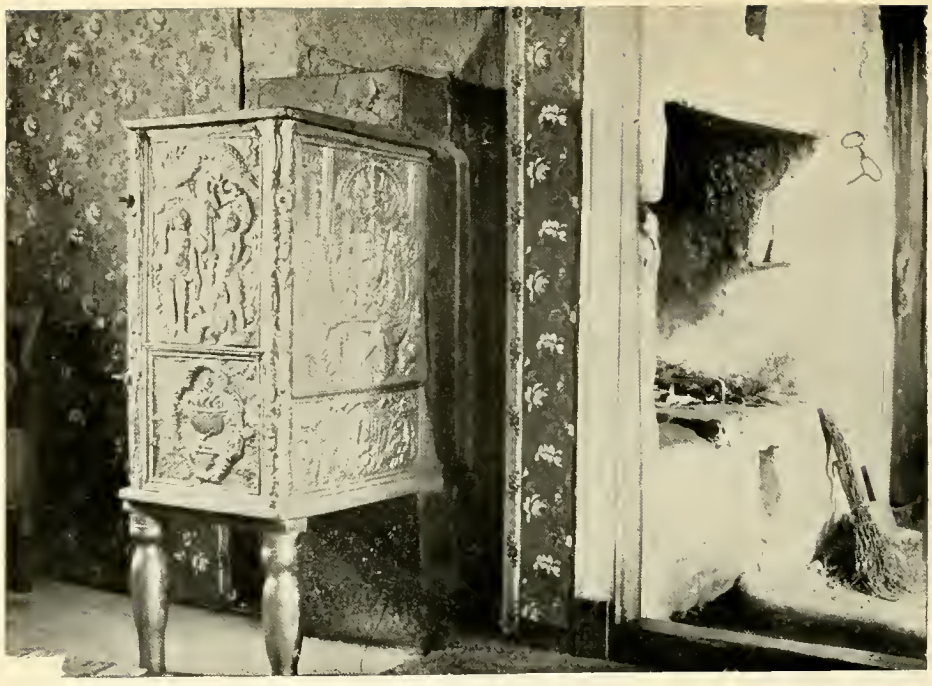
Discovered among the rubbish of old farms, as make-shift chimney tops, stepping-stones, or gutter lids, buried under soot and ashes, as hearth pavements for still existing fireplaces where applebutter is cooked, soap boiled, or hams smoked, or rescued at the last moment in the scrap-heap of the junk dealer, they at once arrest the attention, as perhaps the most interesting and instructive of any of the relics of colonial times which have survived to us.[36]

Some of them were found to have been used in old houses, probably from the end of the 18th century, as fire-backs, that is, plates of iron set in the wall of an open hearth, back of the fire, but notwithstanding the fact that a number of their present owners continue to call them fire-backs, they were not made to be so used. The plates were found to fit together in grooves, five or six at a time, so as to form rectangular or box-shaped stoves, which could be reconstructed from the loose plates and the purpose and construction of which was entirely unlike that of a fire-back.

American histories had overlooked them. Franklin in his Fireplace pamphlet of 1744, followed by Chamber's Encyclopedia of 1788, Watson's Annals of Philadelphia, Vol. 2, page 34; Bishop's History of American Manufactures, Vol. 1, page 182, and J. M. Swank, in Iron and Coal in Pennsylvania, page 19 (see authorities listed with note 69), though noting the plates as parts of so-called "German" or "Jamb stoves" and of "Holland stoves," had not referred to their decoration.

Popular tradition had forgotten them, and when J. H. Martin in his Historical Sketch of Bethlehem (Phila. J. L. Pile 1872, page 135), described the designs of six of them at the Young Men's Missionary Society in Bethlehem, and when later in 1897 the writer tried to describe some of them in "Decorated Stove Plates of the Pennsylvania Germans," there seemed to be no general information on the subject.[115]

Their inscriptions were so rusted, abbreviated or illegible, that for a while it was not learned that the language of them all was German, that the stoves represented by the plates, were the first cast-iron house-warming stoves ever used in America, and that the latter were not invented here, but that a whole series of stoves, of the same kind and make,



I.

Swedish Five-Plate or Jamb Stove.

(Sattugn) or non-ventilat ? stove. Size, about 36 inches high by 12 wide. By kind p ion of Dr. S. Ambrosiani, of the Northern Museum at St n.

Now standing in a house at Bjoeverkeroed, Sweden. Without smoke-pipe or fuel door in the room heated, fired from the open kitchen fireplace seen through the open door to the right. Showing iron legs and loose, decorated corner rims bolted on. An abutment in the wall at the rear of the stove surrounds it above, below and at the sides. With its decorated panels cast in low relief showing Adam and Eve in front, and the Last Supper on the right, it is, in construction, an almost exact counterpart of the American five-plate Jamb stoves described later.

had flourished in Europe, long before the building of American furnaces, or the making of American stoves was thought of.

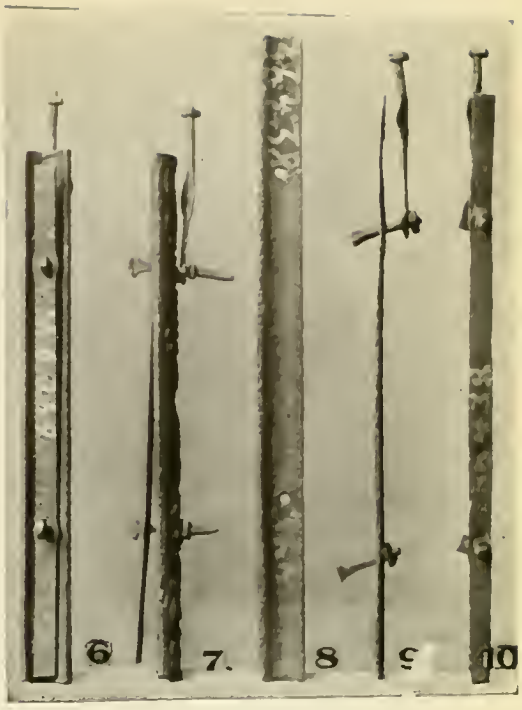
Scattered over Northern Europe, where the subject has not yet been fully explained or understood, in Germany, Flanders, Holland and Scandinavia, the castings, which have recently come into the possession of museums, show at once that they are the counterparts and immediate predecessors of the American plates. Like the latter, they illustrate scenes from the Bible, and are covered with inscriptions, but at first sight, though of generally similar character, many of them appear much older than the American plates. The patterns and shapes are far more varied, with inscriptions either in Roman, or Gothic letters, in German, Norse, Dutch or French and not rarely Latin. Some of the plates illustrate the lives of the Saints, some show rich armorial emblazonments, gorgeous arabesques, panellings, canopies and filigree unknown in America. Many are dated and become more ornate and significant as we approach the middle of the 16th century.

Compared with the foreign originals the American plates are crude, but their construction and the religious spirit of their illustrations and inscriptions is the same; and now, when the craft of iron casting, notwithstanding its great technical development, has so degenerated artistically that the modern stove is a monstrosity, they prove that the iron caster

2.
Decorated Loose Corner Rims of Ancient Norse Cast-Iron Stoves.

with longitudinal strips of wrought iron used inside as washers. (Size not given.) By kind permission of the Northern Museum (Nordiska Museet), at Stockholm.

1 and 2 (Museum No. 64694), front view showing diagonal bolts for fastening top plates, and protruding ends of short bolts. 3, front view of longer similar rim with bolt holes. 4 and 5, inside vertical wrought iron strips or washers with short bolts attached and diagonal top bolts in position.



3.
Loose, Guttered Rims for Fastening Corners of Either Draft or Jamb Stoves.

with longitudinal strips of wrought iron, used inside as washers, and diagonal bolts for clamping down the top plate of the stove, from the Northern Museum at Stockholm.

No. 6 (Museum No. 64094) shows the reverse of No. 1, Fig. 2.

No. 7 shows the side view of No. 2, Fig. 2.

No. 8 shows the reverse of No. 3, Fig. 2.

Nos. 9 and 10 show the side and reverse of Nos. 4 and 5, Fig. 2.

was still an artist a hundred and fifty years ago in the American Colonies, and in the German Fatherland.

A study of them shows that their explanation, whether in America or Europe, forms one single story. Their history is that of German art, which was transplanted across seas and survived for awhile in colonial America, and we must turn back to Europe, and examine particularly the forms of stoves which were first brought to America, and introduced into the colonies, in order to understand the American stoves and stove-plates, which are the subject of this paper.

Only two simple forms of the Euporean decorated stoves were thus imported and it will only be necessary to describe these minutely.

THE JAMB STOVE, FIVE PLATE STOVE, WALL STOVE, OR GERMAN STOVE.[116]

The illustration (Figure 1) shows one of the old, richly decorated stoves of cast-iron which now (1914) stands, or stood, when photographed in 1905, in a peasant's house in Bjoeverkeroed, Brumley Parish, Luggede County, Scania, Sweden.

Typical of the ancient European stoves in their simplest form, and of the American iron stoves here described, it is constructed of five rectangular plates of cast-iron, three of

4.

Left Plate of German Non-Ventilating Jamb Stove of the 16th Century.

Size, 109 centimeters h'gh by 75 5/10 wide. At the Germanic Museum, Nuremberg. Museum No. A 570.

The plate shows the broad margin for wall insertion to the left of the design, and a narrow right margin, with two notches, for the insertion of holts, to fasten on loose, gutter-shaped corner rims not shown. The date 1540 appears in the large central panel.

Above two portrait medallions, the six upper panels canopied with architectural frame-work, represent in the splendid decorative style of the 16th century the parable of the Unmerciful Servant. 1. Pardoned by his master. 2. Throttling his underservant. 3. Condemned by his master. 4. Taken to pr son. 5. In the Stocks. 6. Paying his master in full; with the inscription: HER. HABE. GEDULT MIT M. BEZALE. MIC. WARF. EN. I. GEFENCKNIS. DER. HER. WARD. ZORNIG. U. UBER ANT WORTET. I. DE. PEINIGERN. B. E. IM. I.

Luther's Bible, Matt. 18-26. 1. "Master have patience with me." 2. "Pay me." 4. "Put him in prison." "The master was angry and delivered bim to the tormentors."

5.

Five-Plate Non-Ventilating Wall or Jamb Stove.

Christ'ania, Norway. No. 1137-97. As exhibited at the Museum the stove shows the loose decorated corner rims each fastened with two bolts, to the upper of which the long diagonal screw bolts hold down the top plate at the corners.

which, the front left and right plates are richly decorated, and two of which, the top and bottom plates, edged with channels for the vertical insertion of the side plates (see Figures 36 and 37), are plain.

Standing upon two legs of iron, without fuel door, draft-hole or smoke-pipe, it is built, as is seen through the open door in the picture, against the wall of a room, which wall forms the side or jamb of an open kitchen fireplace, and through which wall, fuel from the fire-place is inserted into the stove, and smoke escapes back into the chimney.

The stove, lacking a plate on the wall or rear side, is held together by being thus built into, or overlapped for from two to four inches, by the wall forming the fuel and smoke orifice above-mentioned, and is further fastened together by vertical, loose, gutter-shaped rims, generally decorated, as shown in Figure 2, set vertically against the corners of the stove, and bolted on by short bolts held against longitudinal washers, or perforated strips of iron, placed internally in the corners of the stove and shown loose in the illustration.

If the stove were taken apart two peculiar characteristics would show in the loose plates owing to this method of construction.

First the margins of the sideplates would be extra broad to the right of the pattern, on

The right plate shows the Judgment of Solomon with the inscription in German, KONICH. SALAMOS. ERSTE. GERICHT. (King Solomon's first judgment), filling the central cartouche, and above a lower panel containing two portrait medallions. The front plate shows the Death of Abel with the inscription, CAIN. SCHLUG. SEIN. BRUDER. ABEL. DODT. (Cain killed his brother Abel), while a portrait, of the Turkish Sultan probably, and the date 1641, appear in the lower panel. The fact that the inscriptions are in German and not Norse, shows that this stove had been made in Germany and imported into Scandinavia.

6.

The European Non-Ventilating Jamb or Wall Stove.

In its simplest form. Size in centimeters, high 86.5, wide 46.25, long 86.5. Forerunner of the American stoves described later. Without smokepipe or fuel door in the room heated, made of five plates, with loose corner rims, bolts and bolt holes, and broad margin on the right side plate for insertion in wall. Date, probably 18th century. Not in its original position, but as exhibited at the Norse Museum at Christiania, Norway. (Museum No. 1135-97.) The decoration shows the adoration of the Magi and two Norse inscriptions on the right plate.

7.

Ancient German Cast-Iron Five-Plate Wall or Jamb Stove.

Probably of the 17th century, with upper story of tiles for retaining heat. In its original position at Halberstadt, Germany, size not given. From photo-engraving in Jarnkakelugnar Och Jarnugnar, by S. Ambrosiani 69.

The illustration shows the method of wall insertion, the legs, possibly of earthen-ware, and the earthen heat-retaining

the right plate, and to the left of it on the left plate (see Figures 21, 22, 23, etc.), so as to permit wall insertion, without encroaching on the pattern, and second, there would be two notches, on the left or narrow margin of the right plate, and two on the right or narrow margin of the left plate (see Figure 4) coinciding with equidistant notches (four in all) on both right and left margins of the front plate (Figure 19) so as to permit the passage of the short bolts above-mentioned, seen in the illustrations (Figures 2 and 3). No doubt these notches often escape notice, but whoever has collected stove plates, must have wondered at the singular irregularity of the margins as here described; one of which is always so very much broader than the other.

This appears in the loose left plate of a similar ancient German stove dated 1520 (Figure 4) from the Germanic Museum at Nuremburg. Richly decorated in six canopied panels, underlined with inscriptions, and illustrating the parable of The Unmerciful Steward, of

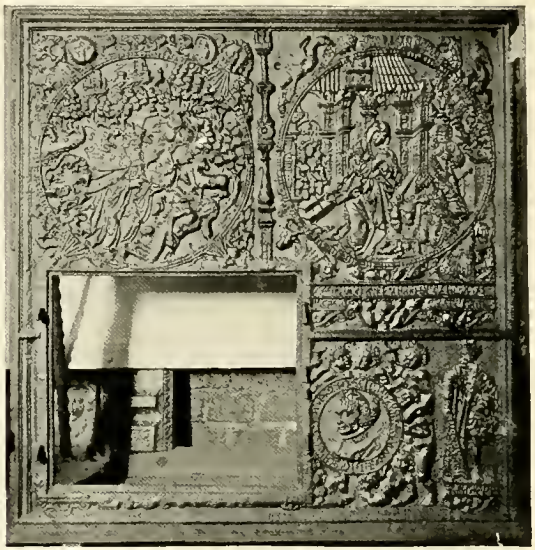
superstructure of tiles, which was rarely used by the Moravians in America, but very frequent with five-plate stoves in Germany. (See Figs. 227 and 228.) The probably loose corner rims, and their bolt heads, are plainly shown. By kind permission of Dr. S. Ambrosiani, of the Northern Museum, Stockholm, Sweden.

8.

Six-Plate Draft Stove.

Size, 73 centimeters high by 46 long by 28 wide. Rijks Museum, Amsterdam. By kind permission of Dr. Van Riemsdyk.

The stove, probably of the 17th century, lacking its original legs, shows the fuel door and stove pipe. A bolt hole near the top of the left plate shows where a diagonal bolt has extended upward through the perforated lip in the rim of the very heavy top plate to fasten down the latter. This diagonal bolt repeated on the reverse of the stove, was probably screwed upon the end of a long, horizontal bolt penetrating the stove from side to side. The corners are secured with the loose, gutter-shaped rims above described, each fastened with two screw bolts. The design shows Cupids with wreaths and scroll-work supporting a central shield showing the Paschal lamb.



9.

Side or Front Plate of Draft Stove.

Size H, 1.04. meters W. 1.04. Rijks Museum, Amsterdam.

At first sight, the plate, showing the creation of Eve and Nativity, with the emblems of the Evangelists, appears to be a replica of the beautiful patterns carved by the master Philip Soldan, illustrated by Bickel (Eisenhutten des Klosters Haina Nos. 2 and 4), but though the grouping and composition of the large panels is the same, the details vary in all three plates showing that Soldan carved three moulds for the same subject.

While the two latter plates are parts of Jamb or Wall stoves, the pattern on the original mould for this plate has been made to serve for a Draft stove by mutilating the design with a hole for the fuel door, in the lower left corner.

Matthew 18-26, it is characteristic of the more splendid work on iron stoves of the 16th century. Here the right margin notched for bolts is narrow, and the left unnotched, is broad, for insertion in the wall.

The Norse Folks Museum found the stoves, Figures 5 and 6, and set them up temporarily for exhibition in the museum at Christiania, Norway.

They are constructed exactly like Figure 1, save that extra diagonal bolts penetrating the corners of the top plates, and screwed upon the ends of the corner bolts above described, hold down the top plates, and steady the stove. These are lacking in Figure 1 where the stove must depend entirely upon its insertion in the wall for steadiness.

But in Figure 7 showing an ancient stove in situ at Halberstadt, in Germany, a large heat-retaining superstructure of tiles built upon the top plate of the iron box holds the stove together by its weight alone. In this form of construction, which appears to have been the rule in ancient Germany, while the simple box, without second story, was the exception, the top plate must have a hole in it, to admit the passage of hot air and smoke from the fire below into the earthen upper structure, which

Here about the middle of the 16th century, besides the inscription of the name of the master Soldan around the portrait medallion, we have in the nature of an advertisement, the names of the caster and furnace set prominently above the names of St. Luke and St. Matthew. The inscriptions without date read:

GEGOSSEN. VON. KURT. SCHARFEN. ZU. HO——— JOHANNES. EVAN. SAN. MARCKS. LUCAS. SANCTUS. MATTHEUS. And around the medallion, PHILLIPO. SOLDAN. ZUM. FRANCKENBURG. GESCHNEIDEN. VON.

Translated—Cast by Kurt Sharf at Ho———, John Evangelist, St. Mark, Luke, St. Matthew, Carved by Philip Soldan at Frankenburg.

Another stove plate, the left of a Jamb stove, at the Louvre Museum, set in a fire-place as if a fire-back, and illustrated on a postal card, October, 1911, shows two upper panels and other figures in replica of Bickel's illustration No. 2, with replacements, omissions of columns and border additions, proving the continued use of this gorgeous design by the German stove makers, together with the variations and shifting of patterns noted in the text as resorted to at the old furnaces.

by retaining heat after the wood fire goes out, adds greatly to the economic effect of the stove.

A large and marvelous class of richly decorated ancient European stoves, ruined, rusting, forgotten, preserved in museums, or represented by loose plates, is thus described. However they may have varied in size, shape and appearance, they were all identical in principle. Built against the wall, and protruding like boxes into the room, generally without visible smoke-pipe and always without visible draft and fuel doors they may all be called non-ventilating stoves, because they procured the air necessary for combustion from outside the apartment heated, and hence failed to ventilate the latter.

THE DRAFT STOVE, WIND STOVE, HOLLAND STOVE OR SIX PLATE STOVE.

Less ancient, less numerous and widely distributed, less rich in decoration and less remarkable in appearance, another type of old European stove is represented by Figures 8, 9, and 150. Photographed not in their original position, but as now on exhibition at the Rijks Museum at Amsterdam, these stoves are similar in general appearance to Figure 1, but very different in principle, and made of six plates instead of five. Standing free of the wall, with smoke-pipe and draft or fuel door, Figure 8 is clamped at all four corners, not merely at two, with the loose gutter-shaped rims and short bolts just described. Moreover a perforated projecting lip on the top plate just above a hole in the left side plate, shows that a diagonal bolt has been used to screw down the top upon the side plate. On Figure 150, however, where the gutter-shaped rims are cast solid upon the side plates, no such bolt hole appears, and we must suppose that the mere excessive weight of the top plate without the assistance of bolts, held the stove together.

These are the Draft Stoves or Wind Stoves (Vindugn) of old Sweden and Norway, which in the long and dark winters, radiated household comfort on the north shores of the Baltic, and which in the milder climate of Holland, almost superseded the five plate non-ventilating jamb stoves above described.

They differed not only in principle but in construction from the latter, and if the stoves were taken apart, peculiarities in the appearance of the loose plates of the draft stove would easily distinguish them from those of the jamb stove. The front plate would be unmistakably perforated for the fuel door, and the top plate for the smoke-pipe. On the other hand, the loose gutter-shaped rims, and the rear plate, with its four notches for the passage of the corner bolts, would be indistinguishable from the loose rims, and the front plate of a wall or jamb stove notched in the same way. But the peculiar extra broad margins, so typical of the jamb stove, adapted for insertion in masonry, would not appear on any of the plates. Further varieties of construction show in the old draft stoves. Some have fuel doors cut in the side rather than the front plates. Some have, and some have not hearth extensions. But all are alike in the important principle of their construction. All derive the air for combustion from, and therefore ventilate the apartment heated.

The ancient cast-iron stoves of Europe, so remarkable, so instructive, so artistic, so little known, as originals of the American stoves here described, were thus of two typical kinds, the air-tight non-ventilating, and the draft, wind or ventilating stove. Both took a great

10.
Wooden Mould for Making a Stove Plate.

Size, about H. 30, W. 24 inches. Northern Museum, Stockholm, Sweden. No. 67040A.

The design, with an upper panel representing a scene at a public banquet, a central transverse band, with the inscription "DEN. 27 FEBRUARU, 1829," and a lower panel, with an ill-balanced spray of leafage and fruit, and the words OHS. BRUK., is carved in relief on two boards about one inch thick, bolted together on two counter-sunk battens (one of which has been lost), shown on the reverse Figure 11. A crack between the boards, and a warp crack to the right, are crossed with four iron staples. Four bolt-heads fastening one of the battens, show in the line of the middle inscription, and several heads of nails show on the marginal molding, which has been nailed on. A thin, transverse strip has been fastened to the bottom ends of the boards outside the rims, to prevent warping. The whole top of the pattern has rotted away.

11.
Wooden Caster's Mould for a Stove Plate.

Reverse of Figure 10. Size about H. 30 by W. 24. Northern Museum, Stockholm. No. 67040A.

Made of two boards, planed or grooved with a drawknife across the grain. Two staples are seen, one crossing the intersection of the boards, the other mending a warp crack. A narrow batten is nailed across the ends of the boards at the bottom, and a heavy transverse batten is dovetailed, and bolted with four washered bolts, across the boards. The top of the framework showing the dovetail for the lost upper batten has rotted away.

variety of shapes,[38] but are only described here in their simplest form. The first, common in Germany, well-known in Scandinavia, but rare in Holland, as the direct predecessor of the American "Five-Plate" "Jamb," "German" or "Wall" stove,[116] the second, common in Holland and Scandinavia but rare in Germany, as the ancestor of the American "Six-Plate" "Holland" or "Draft" stove.

The attention of European museums and collectors has been concerned rather with the art than the make of these stoves, but the peculiarities of their construction, as thus described, ought to be understood, in order to explain why notched or unnotched or broad margins, or pipeholes, hearth extensions, or fuel doors often fixing the date, class or origin of the stoves, occur on some plates and not on others.

We also ought to know how, when and where the stoves were originally made and used, and this brings us first to the technical processes by which most of them in Europe and America were designed and cast.

ANCIENT STOVE CASTING AND STOVE MOULDS.

The plates of both kinds of stoves varying in size from two to three feet in diameter, are very heavy and thick, and generally never produced by the caster's process known as flask casting, which was not employed in making the plates of either wall or draft stoves, until the beginning of the 19th century, or the

last period of their use, upon the introduction of coal as fuel, and never, as thus far known, in America. If the authorities herein cited, had not asserted the fact, the irregular thickness, varying weight, and waived surfaces of the backs of the plates both in America and Europe, would prove that all the earlier plates were cast in the "open sand," that is to say, molten iron, either melted directly from the ore, or remelted from ingots, called "pig iron," previously so melted, was poured into the open unroofed cavity, formed by pressing the face of a pattern (Figues 10, 12 and 14) into a bed of properly dampened caster's sand (sometimes mixed for strength with powdered charcoal or plumbago), so as to leave the upper surface of the impression exposed to the air, and so that the resultant cast stove plate, would be thicker and heavier, or thinner and lighter as more or less liquid iron was poured in.

Up to the present time, May, 1914, none of the ancient casters' moulds for making either wall or draft stove plates, have been found in the United States.

Beck,[70] Wedding[106] and Bickell[72] who describe the ancient German moulds as always carved in wood, give no illustrations, but Dr. Kassel (Oftenplatten im Elsass Strasburg, 1901, with his Figures 110, 113, 114, 115, etc.) illustrates a number of them, without showing their reverse side or explaining their construction, as now existing in the possession of the furnace and foundry at Zinsweiler in Alsace.

After a great deal of inquiry and correspondence the writer heard of Figures 10-11 from the Nordiska Museet at Stockholm, and Figures 12-13 and 14-15 from the Norse Folks Museum at Christiania, Norway, kindly photographed by Doctor Ambrosiani and Mr. L. Lindholm. Although unfortunately the patterns belong to the late decadent period of European stove-making, they clearly explain the construction of the moulds to the student who may have doubted whether they were made of wood, plaster of paris, wax, lead upon wood, or iron, or produced by loose stamps, as described by Starkie Gardner (in Archaeologia, Vol. 56, Part 1, page 133), in the casting of the oldest English firebacks at furnaces in the Kentish district known as the Weald.[19]

In Figure 10 shown in reverse in Figure 11, we have a rectangular frame-work about two-and-a-half feet square, made of two boards, about an inch thick, fastened together originally across the back, by two stout transverse wooden battens (one of which is lost), dove-tailed into and bolted (with four bolts riveted on washers) against the back of the boards upon the flat front face of which the pattern is carved in very low relief without undercutting.

Vertical warp-cracks entirely penetrating the boards, three times mended with staples, in Figure 11, and traversing the patterns in Figures 12 and 14, conclusively show that the designs have been carved directly upon the face of the boards in the usual manner of relief work, by cutting away the background, and that the margins have not been so carved, but nailed on in the form of loose strips, since the warp-cracks above-mentioned pass under but do not cut the margins. Further it appears that in Figure 14 the margin or moulding under consideration is of some composition such as that used in modern picture frames, since a broad crack crosses it at right angles, in a manner impossible across the grain of a wooden strip, and not coinciding with any crack in the board background underneath.

The comparatively modern and artistically decadent pattern shown in Figure 12, with its reverse Figure 13, presents the same construction throughout, namely a wooden pattern carved on two boards, bolted as before against three battens and trimmed with a loose moulding nailed on in four pieces. Both here, as also in Figure 10, the bolt-heads and marginal nail heads show on the front of the pattern.

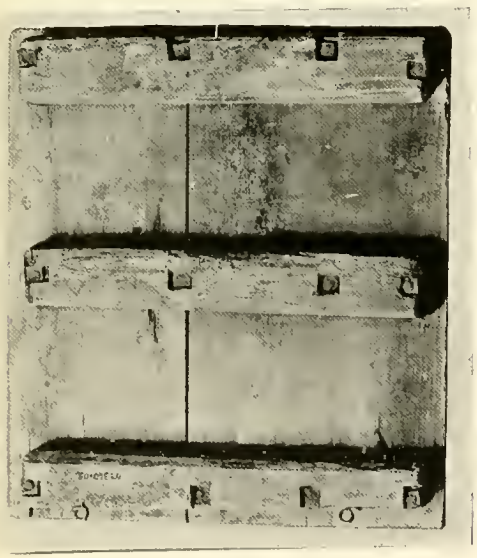
The casting of the plates in open flasks is thus explained. But the loose iron rims (Figures 2, 3, and 151), convex in front, and guttered in reverse, have also to be accounted for. According to Bickell (Eisenhutten des Klosters Haina, page 10), these had to be cast in separate flasks, that is to say, boxes filled

12.

Carved Wooden Mould for Casting a Plate.

Size H. 0.56.5 centimeters, W. 0.50. From the National Museum, at Christiania, Norway. Museum No. 36005.

Carved in relief on two boards fastened by twelve iron bolts upon three heavy battens shown in reverse in Figure 13. The raised marginal moulding is nailed on with twelve nails. The central crack between the boards, and a warped crack out of line, below the lion's fore leg, cross the raised parts of the pattern, showing that the latter are not nailed upon the background like the rim.



13.

Wooden Mould for Making a Stove Plate.

Reverse of Figure 12. Size H. 0.56.5 centimeters W. 0.50. From the National Museum, Christiania, Norway. No. 36005.

Three heavy battens are bolted across the boards by twelve bolts, the heads of which plainly appear upon the face of the pattern, Figure 12.

14.

Carved Wooden Mould for Front Plate of Jamb Stove.

or back plate of draught stove. Size H. 0.63.5 centimeters W. 0.35. National Museum at Christiania, Norway. Museum No. 358.05.

The pattern dated 1782, with the advertisement of the furnace, BOLVIGS. WERK., and the ancient metallurgical symbol for iron, is carved on a single board, with two narrow strips bolted together upon two heavy transverse battens, as the reverse Figure 15 shows. The vertical warp crack crosses the whole pattern except the rim, which is therefore not part of the carving, but fastened on and made of some substance other than wood which has permitted it to crack across the grain. The high rims at the right and left are applied upon the back strips and held in place with bolts.

with damp sand, fitting one upon another so as to, as it were, roof the impression of the pattern and permit the hot iron to enter what might be likened to a cavern of damp sand, representing the complete impressions of the guttered rim on both sides. Where these rims were cast solid upon the margins of the side or front plates (see Figures 31, 44 and 150), what might be called partial flasks, overhung the margins of the large impressions, in such manner as to leave the main surface open to the air, and produce a plate, which is thus open sand cast in the middle, and flasked on the margins.

This is shown in Figure 14 reversed in Figure 15 where the pattern is carved on a single wide board, held by two transverse bolted battens between two side strips, which latter are doubled in front by two convex longitudinal strips, nailed on, and intended to produce deep chasms in the caster's sand, to be roofed over longitudinally (flasked), with sand coated rods (not shown), so laid across the sand bed, as to form the gutter-shaped rims where, as in Figure 150, and in the American front plates (see Figures 31, 36, 44, 54, etc.), it was desired to cast the latter solid on the plates.

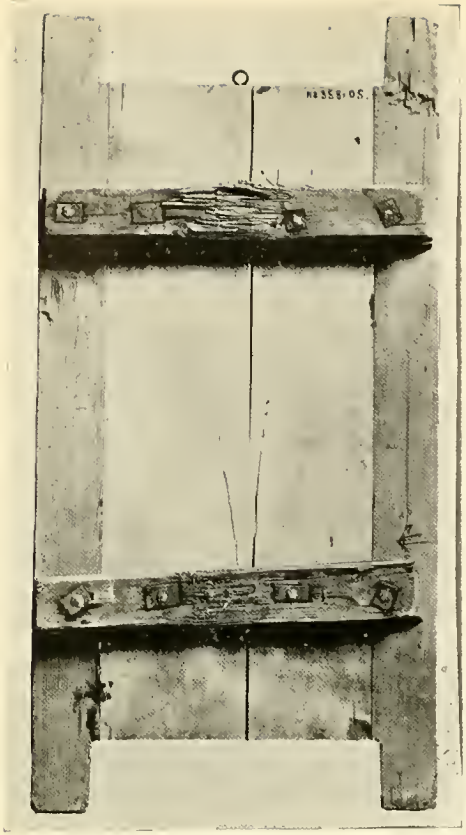
Figure 16 shows a loose figure cast in silhouette in lead, perforated with nail holes, which, according to Ambrosiani, has been nailed upon a similar board framework, so as to form, either alone, or with other figures, a complete pattern. And Kassel (Plattenofen und Oftenplatten im Elsass, Figure 131), illustrates a whole pattern cast, not thus in silhouette, but, background and all, in the form of a thin sheet of lead fastened to the board.

Either of these lead methods, the latter of which appear to have been introduced early in the 19th century in Alsace, would do away with wood carving altogether and permit the mould maker to make his designs in clay or wax, to be thus reproduced in the usual manner by casting in lead. But they belong not to the period of the artistic development of the stoves, but to that of their decadence and abandonment, and until moulds shall be found to prove the case, there is no ground for supposing that any such patterns were used to cast the earlier plates under consideration, or that during the period 1480 to 1800, heavy plaster of paris casts, undesirable on account of their softness and brittleness, were used, or that iron moulds, objectionable on account of their weight, cast from preliminary moulds of wood, wax or plaster, were employed. All of the evidence thus far indicates that the great majority of the ancient moulds in Germany, as in America, were made not by clay or wax workers, but in the usual way as described, by wood carvers, whose names appear frequently as "Formschneider" upon the old plates.

A great number of the wooden moulds above described, must have been destroyed in the 19th century, as the old stoves fell into disuse, from the fact that they are so rare, but according to all the evidence, many of them when in use, warped, after the manner of the museum specimens shown in Figures 10, 12 and 14, so as to show, vertical cracks running with the grain of the wood, or so as to spring away from the battens and raise the general surface higher in one place than another. Or the raised patterns or letters in the inscriptions may have broken off. In many cases, the boards must have been rebolted, nailed or screwed upon the battens, or fresh battens added. The bolt holes, if noticed in the wood, and the warp cracks, must have been filled with clay or wax to the general level, and the impressions of unmortised bolts or nails or wood welts, obliterated upon the sand.

That the correction of these defects and the considerable mending of the patterns, as they wore down or warped, fell to the caster, or to assistant carpenters or cabinetmakers, or to the original pattern carver himself, the old furnace records of the Haina Abbey works quoted by Bickell show.

On the other hand a number of American and European plates, some indeed of the finest of the 16th century designs of Philip Soldan, show uncorrected impressions of warp cracks, and of the heads of unmortised nails or bolts



15.
Wooden Mould for Making the End Plate of a Five- or Six-Plate Stove.

Reverse of Figure 14. Size H. 0.63.5 centimeters W. 0.35. Norse Folks Museum, Christiania, Norway. No. 35805.

One broad board, and two narrow side strips, are battened together with two heavy transverse battens, each held with four bolts riveted upon washers. The vertical warp cracks crossing the carving in Figure 14 is here seen clearly in reverse on the back of the central board.

16.
Part of Ancient Stove Mould.

Figure of a horseman in silhouette about 10 inches long made of cast lead, used in the construction of a mould for casting a stove plate. The figure has been nailed upon a board background, through several nail holes appearing upon the surface. Exact size not given. By kind permission of the Northern Museum at Stockholm, Sweden.

or the loss of letters in inscriptions. Sometimes these defects occur but once, but occasionally appear in a series of replicas, to show that the careless workman, who might have obliterated them with a touch or two of the moulder's trowel, did not scruple to repeat his error.

Evidence of the mutilation of patterns, of inferior copying of older patterns, of bad restoration, or of the interchange of parts of patterns so as to jumble designs and confuse authorship, also appears, as Wedding and Kassel show, especially where ancient patterns were held for a century or more at a single foundry. And it further appears that holes for the doors of draft stoves, or for the warming upper compartments of jamb stoves were sometimes inserted regardless of the design, as in Figure 9 at the Rijks Museum at Amsterdam, where a magnificent pattern by Philip Soldan, made probably for a jamb stove, has been thus mutilated for a later draft stove, and that where it was required to cast a plate or stove smaller or larger than the mould on hand, the latter was sometimes sawed off, design and all, or its margin reduced or enlarged to suit the case.

ORIGIN AND DISTRIBUTION OF THE ANCIENT STOVES.

To have gone into these details as to stove moulds and the casting and construction of the ancient stoves seems justified in view of the rarity of information on these points both in Europe and America. But who knows anything as to the date of the invention of iron stoves or the range of their distribution in the Old World, or how and when decorated stove

plates have survived into modern times. At the risk of tiring the reader these questions ought also to be answered in order to explain the American stoves, which are hereafter described, and as an essential part of our subject, which begins in Europe and ends in America.

In the first place it should be explained that these stoves were not an invention, but rather a reconstruction in iron, of stoves in earthenware, raw clay or tiles, previously in use in Europe since Roman times.[37]

Dr. Ludwig Beck, in his Geschichte des Eisens, Vol. 2, page 294, supposes that they were developed in the first place by encasing the fireboxes of the previously existing earthen stoves with cast-iron plates.

Dr. Ambrosiani supposes a similar evolution, in his paper on Norse stoves, Om Jarnkakelugnar, page 93, and Beck, page 294, cites Swiss stoves of clay or brick without chimneys fed with abundant wood through holes outside the walls of the house, and hence smokeless, as possible types of original earthen stoves thus experimented upon with iron plates. Beck, Siebenaler, and Fischer Ferron (in works cited in the Appendix) describe what might be called a radiating fireback used in Luxembourg, called Taque de Foyer (and confused with the common fireback) which, placed back of the open fire, in a fireplace like a partition, and with its decorated side turned away from the hearth, radiated heat into an adjoining apartment or closet called Taqueschaf, and which might therefore be called a stove made of one plate. (See Figures 218 to 221.)

But whatever might have been the nature of the earliest step the exact date of the first casting of stoves in iron is uncertain. Beck refers indefinitely to French writers who state that iron stoves were cast in Alsace in 1490, and quotes Lersners Chronicle of Frankfort-on-the-Main, Vol. 2, page 723, which refers to a person known as the "Master of the Mosel" who in the year 1490, "can make iron stoves."

There are, or in 1903 were, a few undated plates in the Clarier collection at Paris, Rue Gambetta 41, and at the Museum at Nancy referred to by Dr. Kassel in his Ofenplatten in Alsace, page 3, which he infers to have been cast in the time 1431-1480 of King Rene of Anjou whose arms they bear. But this does not certainly follow, for they might have been cast after the king's death, and as they are firebacks, and not stove plates, would concern rather the doubtful antiquity of iron-c itself than that of stoves. The same thing may be said of an ancient grave slab of cast iron in a little English Church at Burwash in Sussex which Starkie Gardner in Archaeologia, Vol. 56, Part 1, page 134, believes to have been made in the 14th century. While this grave slab has no date, a remarkable plate dated 1488, cited by Beck as found at the rectory at Ravengiersbach in Hesse, and unfortunately melted down as junk in 1855, was again a fireback and not a stove plate.

The splendid cast iron double storied stove, elaborately constructed of many plates, shaped like the gable of a church, and decorated with figures of the Madonna and St. Christopher, now 1914, in the Castle of Coburg in Hesse, has no date. But it nevertheless stands for the oldest iron stove thus far found in situ in Germany, and must have been cast and set up, according to Beck, and a builder's inscription on the Castle walls, when the Castle was repaired in 1485.

If a stove or stove plate could be found with a date upon it earlier than the year 1500, the evidence would be more satisfactory. But no such stove or fragment has been discovered. Nevertheless, though it is not until the second decade of the 16th century, or about the time of the beginning of the Reformation, that a great number of dated stoves and stove plates appear in Germany, it may perhaps be reasonably inferred from the above data, that the invention of cast iron stoves, which no one denies for Germany, occurred somewhere about the time of the birth of Columbus or Luther, and the invention of printing, and vaguely within a century after the discovery of the casting of iron itself.[10]

From the authorities mentioned, we learn that although in Britain, Southern France, Spain, and probably Italy and Greece, where houses were warmed by open fires, these stoves never existed, they were abundantly used in Germany, Scandinavia, Denmark, Holland, Belgium, Lorraine, Alsace and Northern France.

In Transylvania, where a German colony has been isolated in the mountains among Slavic peoples for several centuries, there ought to be cast iron stoves. Dr. Ambrosiani writes us that they are rare in Russia, and the writer has been unable to learn of their existence in Northern Austria, Bohemia, Galatia, Hungary, Finland and Poland. Neither are we sufficiently informed as to the distribution of the two types of stoves, namely ventilating and non-ventilating, as described above, and whether the former or the latter were preferred, or first used, in any given country.

A great many of the loose plates of draft stoves in European Museums, studied thus far chiefly from an artistic point of view, have been mixed up with the plates of wall or jamb stoves, or with firebacks[44] or with the peculiar kind of reversible fireback anciently in use in Luxemburg and Belgium called Taquede Foyer, above referred to, and it remains to be learned whether these draft stoves of iron which, it appears, were unquestionably preceded by draft stoves made of tiles, were somewhere contemporaneous from the first with the iron wall stoves of the 15th and 16th centuries or whether they were introduced long after the appearance of the latter.[41]

According to Ambrosiani[69] the draft stoves appeared in Scandinavia late in the 17th century and considerably after the iron wall stoves. Figure 8 from the Rijks Museum at Amsterdam is dated 1660. Figure 150, 1753, and Figure 9, the plate with a hole in it for a draft door, and hence necessarily part of a draft stove yet with the name of the artist, Philip Soldan (born about 1500, died about 1560) inscribed upon it, was therefore possibly made in the early 16th century. Consequently, without going farther into the antiquity of these draft stoves, there can be no question that they were not invented in the United States, but had existed in Europe long before their appearance in the British Colonies.

Not a little of the information thus far collected has been obtained from the records or histories of the ancient ironworks which produced them. Wedding speaks of a furnace where a great number of beautiful stoves were cast, at Ilsinburg in the Hartz, in which province, according to him, they began to make stove castings in the second half of the 16th century (not before 1543), and produced their best work between 1560 and 1590. Fett gives the names of a number of old furnaces in Norway, Sweden, and Denmark, where both wind and wall stoves were made in the 17th, 18th and 19th centuries. Bickell notes ancient furnaces working in the 17th century at Biedenkopf, Rosenthal, Knickhagen, Veckerhagen, Butzbach and Bieder in Hesse, and heaps of slag, abandoned excavations, and the ruins of foundations of ancient walls on the banks of the Gilsa and Urfa, wild mountain streams flowing into the river Edder, mark the site of the furnaces of Densburg, or Rommershausen, Dodenhausen, Fishbach and Armsfeld, belonging to the Hessian Abbey hospital of Haina, where the magnificent carvings of Soldan were cast into stoves in the 16th century, and other splendid designs executed a hundred years later, after the armies of Wallenstein, Tilly and Gustavus Adolphus had interrupted the work for a long time.[42]

Fortunately for the student, the old stoves were not constructed so as to present their vertical decorated sides in one solid piece of iron. If so, most of them would have disappeared long ago. To entirely destroy the evidence of a given stove, not one but several flat, heavy rectangles of iron have to be lost, and as the stoves were cast in replica, out of a multitude of duplicates, a great many of the patterns, as single plates, survived the demolition of the stoves, and are now being preserved by collectors and museums throughout Europe.

STUDENTS AND COLLECTORS OF STOVES.

Dealers in antiquities have sold loose stove plates for house adornment latterly (probably after 1890) in America, and earlier in England, where they have been used as firebacks, and where a few have been placed in the South Kensington Museum. If they had not been so elaborately adorned by artists now unknown, with patterns worthy to be compared with the rich wood carvings of the Cathedrals, illustrating a phase of household decoration that flourished at the end of the Middle Ages, and survived the Reformation in a striking series of illustrations of the Bible, this subject, as a purely ecomonic one, would have no more attraction for the student of art than a study of the modern inartistic coal, coke and turf burning stoves of Europe, now in use, and which are hardly less monstrous in design and decoration than their counterparts in the United States. But so remarkable is the decoration of the old stoves in question that it is a singular thing that, outside of a few casual notes in general histories and the proceedings of scientific societies, no general notice should have been taken of them by students of art, until about twenty years ago.

Then Dr. L. Bickell, keeper of the Hessian Historical Society, roused interest in the matter in 1889 (see Eisenhutten des Klosters Haina, Marburg, 1889), by describing the splendid set of stoves and plates collected at Marburg in Hesse, and by rescuing from oblivion the forgotten name of Philip Soldan, of Frankenburg, the master who designed many of them in the early 16th century. Dr. Herman Wedding who, previously in 1881, had called attention to the subject in a paper before the Hartz Verein, later in 1893 described and partially illustrated another lot of about three hundred loose stove plates, collected on loan at Ilsenburg in the Harz.[106] In 1865, W. Luebke in his paper on decorated tile stoves in Switzerland mentions three iron stoves.[87] Fisher Ferron, in 1890,[79] followed by J. B. Siebenaler in 1899 and 1908[97] and the Baron De Rivieres in 1893[91] describe and illustrate a few stove plates, a great number of armorial firebacks, and what might be called radiating firebacks, the so-called "taques" in lower Belgium, Luxemburg, and Lorraine.[70]

Dr. Ludwig Beck in 1893, in a later edition of his History of Iron, devotes a whole interesting chapter to the artistic description of old stoves and stove plates in Germany; and Dr. Kassel (Ofenplatten und Plattenoffen im Elsass, Noirel, Strasburg, 1903) describes technically and artistically more completely than any one else a great number of these stoves and stove plates recently found, and still in 1903, in use in peasant houses in Alsace. Besides several museums and private collections containing stove plates in Germany, Holland, and France.[43] a great number of the stoves, originally of German origin, have been recently collected and studied in Norway, where Mr. H. Fett describes and partially illustrates a large loan collection at the Norse Museum at Christiania. In Sweden at the remarkable Nordiska Museet, founded by Dr. Herselius at Stockholm, there is a collection containing plates and stoves, the oldest of which were imported into Scandinavia from Germany in the 16th century, after which they continued to be made at Norse Furnaces until about 1820, and referring to which Dr. Ambrosiani, to whom the writer is greatly indebted, gives with illustrations,[89] a most valuable description of the internal construction of the stoves, which none of the other writers, except Kassel, appear to have thought of doing.

SURVIVAL OF THE STOVES.

But in Europe, as in America, the day of the ancient stoves is past. Their art is dead. Discarded for coal-burning stoves, apparatus for hot-air or steam heating, or supplanted by

modernized forms of the older tile stoves, they fell into disuse in the 19th century, towards the end of which a great number of the ancient iron plates were melted down for recasting, before museums and students had begun to value them, and when at certain times since 1850 the price of old iron went up.

But they were not suddenly abolished and destroyed as in the United States. According to Dr. Ernest Kohler (Volkskunst and Volkskunde, Vol. III, 1909,) a number of ancient wooden patterns are preserved if not still used at the furnace at Obereichstatt on the Altmuhl in Bavaria,[45] and though the majority of the old stove-making furnaces of the 16th, 17th and 18th centuries with their immense water wheels, blast bellows greased with lard or tallow, casters' benches and ancient cisterns, as described by Bickell, are now in ruins or modernized beyond recognition, Kassel describes the ancient furnaces of Messrs. Dieterich & Co. at Zinsweiler and Niederbronn in Alsace, as still, in 1903, making modernized forms of jamb stoves with cooking improvements, inserted ovens, drying chambers, etc., and the stove works of Mr. George von Collin at Hanover, according to the information of the latter, produced in 1910 jamb stoves with insignificant scroll decorations, in five plates and sometimes with inserted ovens. No doubt other furnaces or foundries still exist in Europe, where wall stoves or draught stoves of the old rectangular type, more or less modernized in their decorative patterns, are occasionally cast. Moreover, while all the American stoves thus far found have been dismantled, and can only be studied from their loose plates, not a few of the ancient European stoves remain in their original position in old houses,[46] like Figure 1, and the director of the Museum at Stuttgardt informs the writer that few of the ancient houses in that vicinity are without their old decorated stoves.

Kassel, in 1903, notes a large number of complete stoves in situ at farm houses near Hochfelden in Alsace,[46] and besides the great undated Coburg stove above noted, supposed to have been built in 1485, they have at the Bavarian National Museum at Munich a smaller one of similar form, one meter and ten broad, by one and twenty high, dated 1536, set on high legs with numerous decorative panels, and adorned with armorial shields, portrait medallions, and knightly figures, found in the Palsgraves guest chamber, at the castle of Grunau near Neuburg on the Danube.[46]

What memories, what legends must have clustered about these monumental structures of black splendour, most magnificent and oldest as we learn, in the castles, and the sight of which has grafted upon the German language such phrases as "Tell it to the stove," or "Beg it from the stove," as if so remarkable an object with its pictures and inscriptions itself spoke, or listened to dangerous and impossible things told to it when no one was near.

In such stoves as these Wilhelm Grimm, in his notes to the celebrated cycle of German Household Tales, sees the dark and fiery symbol of the Nether World, or the ancient Orcus, with its chimney of Vulcan. By a freak of German fancy, incomprehensible to the mind of Old England, where stoves never existed, the stoves stand in enchanted forests, to be the dwelling-place or prison of kings' sons, or, as in the beautiful tale of the Goose Girl, from Schwerin, listen to unutterable secrets.[47]

STOVE PICTURES.

The writers above quoted group the plates thus far studied in Europe, according to their subjects, as follows, into:

First. Figures of Saints and Catholic subjects, with Gothic adornments and portrait medallions of knights and persons. These are the oldest patterns; they appeared exclusively at the beginning and continued in Catholic districts.

Second. Classical Subjects.

Such as Coriolanus and his mother, the Rape of the Sabines, Julius Cæsar, the Sybils, etc.

Third. Coats of Arms.

Very abundant from the first. Made for nobles, towns and corporations. Far outnum-

bering all other patterns upon the firebacks and "taques" in England, France and Belgium. The arms of crafts emblazoned with implements, etc., appear in the 17th century.

Fourth. Allegorical Subjects.

Frequently female figures, representing Justice holding scales, Faith, Virtue, etc., appear in the 17th century.

Fifth. Patriotic and Warlike Subjects.

Royal portraits, national arms, memorials of Bonaparte, royal emblems. Ordered, in France, Lorraine, etc., to be turned face to the wall, or inside the stove, by a decree of the National Convention, October 12, 1793.

Sixth. Landscapes.

Pictorial designs, churches and modern filagree, appearing in the 18th century, as casting in flasks, instead of open sand, begins towards the end of the 17th century. The patterns become more and more realistic, tasteless and meaningless in the 19th century and until the present time.

Seventh. Bible Subjects.

Beginning with the Reformation about 1530, and by far the most important, interesting and widely spread of all the designs. Brought to America by German emigrants in the 18th century. Much finer in the 16th than the 17th century. Much retarded by the thirty years' war, 1618 to 1648, they become more pictorial in the 18th and 19th centuries, and sometimes consist of moral maxims and filagree alone. From the Old Testament: Creation of Eve. Adam and Eve. The Expulsion from Paradise. Abraham and Isaac. Pharaoh at the Red Sea. Moses and the snake in the wilderness. Lot and his daughters. Joseph and his brothers. Joseph and Potaphar's wife. Joseph interpreting the dream. Elija's miracle of the oil at Sarepta. Elisha's miracle of the oil. David and Uriah. The Judgment of Solomon. David and Goliath. Jonah prophesying the end of Nineveh. The punishment of Haman. The fall of Sodom. Joseph and the five kings. The Moulten Calf. Death of Nahab and Abihu. Death of Absalom. Esther and Mordecai. Daniel in the Lions' Den. Susanna in the garden. From the Apochrypha: Judith in the camp of Holofernes. The binding of Achur by Holofernes. Judith with the head of Holofernes. The siege of Bethulia. From the New Testament: John the Baptist. Birth of Christ. Baptism of Christ. Last supper and Foot washing. Christ at Gethsemane. The capture of Christ. Visit of the shepherds. The Flagellation of Christ. Carrying the cross. Turning water to wine at Cana; most popular of all Biblical patterns among the poorer classes in Germany, endlessly copied and repeated. Conversion of Paul. Christ and the Woman of Samaria. The miraculous feast of the Five Thousand. Peter walking on the water. The Good Samaritan. The Prodigal Son. The Rich Man and Lazarus. History of the rich and poor. Christ in the temple. The Crucifixion. The Resurrection. The Last Judgment. Illustrations of the quotation, "He who climbs in not by the door is a thief and a robber."

ARTISTIC TREATMENT.

The comparatively few plates illustrated in the books above quoted, from the earliest, dated 1527, as shown by Wedding, to the latest, dated 1811, illustrated by Kassel, show a great variety in the treatment of their designs, borders and inscriptions.

As to design, although a few traces of Gothic decoration appear upon the earlier plates in the 16th century, it is the style of the German Renaissance that characterizes them from the time of the Reformation, when they came into general use, down to the beginning of the 19th century. From first to last, the tendency to produce a picture with foreground, distance and realistic rendering of natural objects, appearing rarely in the earlier plates, but very frequently in the later ones, is noticeable.

On the other hand, true decorative designs where the whole pattern is conventionalized and balanced, and where foliage, natural objects and inscriptions are arranged, not with regard to perspective or drawing, but rather to balancing of units of design, is very conspicuous in the earlier plates, rare in the later

ones, and almost absent after 1800 upon plates which have not been directly copied from older models.

Sometimes besides the main design, conveying the chief meaning of the plate, secondary patterns, often paneled away from the main field, are filled with scroll work, knightly figures, classical heroes, portrait medallions, emblems, or large explanatory inscriptions or dates, and sometimes with the advertisement of the names of furnaces.

A border of some sort is nearly always used, generally as a plain moulding or rim surrounding the pattern and sometimes crossing it so as to form the panels above mentioned, though this is sometimes entirely absent. Besides this, Soldan and other masters frequently surround their designs with elaborate filagreed bands in the richest style of the Renaissance, which in themselves would serve to conventionalize the main pattern even if the latter were pictorial, and these borderings in the late 16th and 17th centuries frequently take the form of canopies overhanging the figures, often as arches sometimes pointed and adorned with Gothic fretwork, but generally of round classic pattern supported upon twisted or fluted columns.

And here we pause with particular interest, for this latter type of design prevailing in Alsace and southern Germany in the 17th and 18th centuries crossed the seas as the immediate predecessor of the earliest American patterns. Above the main picture, which is placed immediately under the arches, the semicircle within the vault is filled with elaborate pendant corbels, or curtains and tassels, while below it the inscription either fills a narrow cartouche crossing the entire plate, as a plinth below the columns, or a large minor panel framed within the general border, which in other cases encloses only scroll work or the date in large letters.

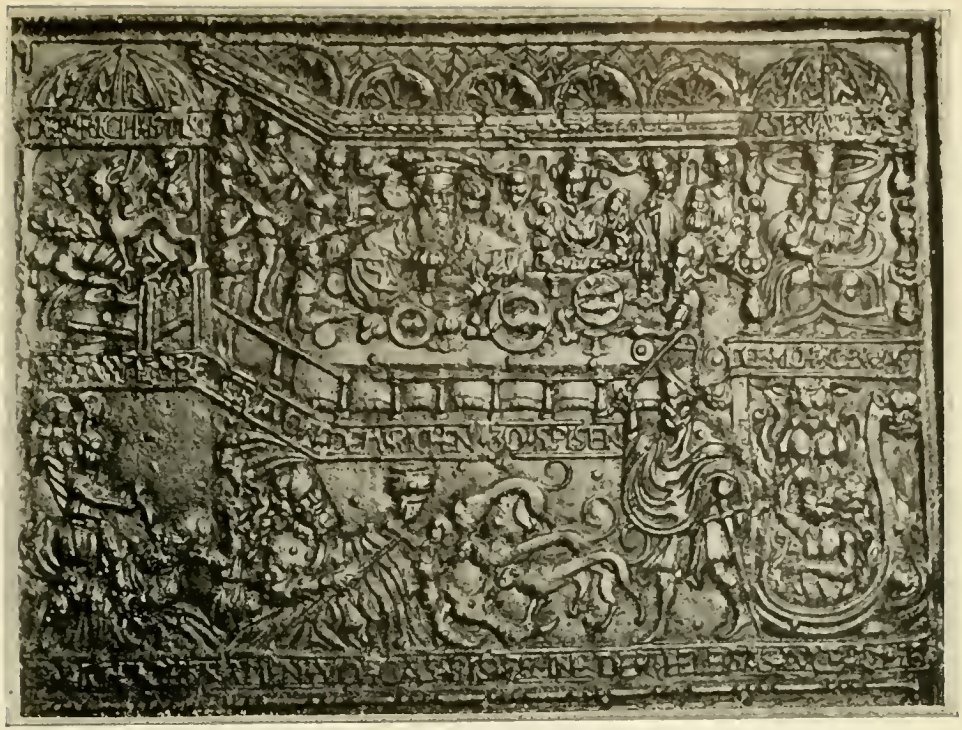
DATES, INSCRIPTIONS, ADVERTISEMENTS AND ARTISTS.

What a great help it would have been to the student if the old casters had invariably dated the plates, but in many cases they failed to do so. Direct chronology is thrown out, and we are left to inferences from associated names, facts and styles of designs.

Where dates appear, generally in Arabic numerals but sometimes in Roman letters, in the 16th and 17th centuries, they may refer either to the carving of the pattern or to the year of the casting of the plate. In the former case, according to Kassel, the date would remain fixed on later stoves cast from the same pattern. On the other hand, the splendid Crucifixion plate by Philip Soldan appears in the Marburg collection, dated 1548, and in replica at Fritzlar, dated 1537 (see Bickell plates) and a plate representing the beheading of John the Baptist in Dr. Beck's collection, dated 1586, with a replica in the Weisbaden Museum, dated 1597 (see Geschichte des Eisens 2, 302) also illustrate the fact that different dates appeared upon replicas of the same pattern, showing that the date of casting had been changed to suit passing years.

The inscriptions cast generally in Latin but sometimes in Gothic letters, as seen by the writer, in French, German, Dutch, Norse or Latin, spelled according to the fashion of their time, often abbreviated and unspaced between words, and therefore difficult to decipher, are generally explanatory of the main pattern. Sometimes, as above noted, they are enclosed in a bordered band crossing the plate immediately under the chief design, or they fill the whole lower part of the plate enclosed in a minor panel. More rarely they are set in the background above the design, or upon irregular scrolls or cartouches.

Soldan and some of the earlier Hessian makers placed their names or their initials upon the borders of minor portrait medallions, or upon the cornices of walls or well curbs, or open spots in the background, and many of the old German plates are stamped with one or more single letters, or monograms, or double letters, or names often abbreviated, sometimes defying explanation, sometimes standing for the pattern carver, caster, iron master, or for the name of the furnace. Sometimes these names, symbols, or letters appear in the sky or outside the margin, or upon the



17.
The Rich Man and Lazarus.

Plate of Wall or Jamb stove, size not given. At the Museum of Hal or Porte de Hal., 1908, near Brussels. Taken from an illustration in Taques et Plaques de Foyer, by J. M. Sibenaler, Arlon, 1908. P. 159. The margins of the plate and its lower panel have been cut off in the photograph. Sibenaler says that a replica exists at Sart, eighteen miles southeast of Liege, Belgium, in possession (1908) of M. Houyon-Requet, who had excavated it from an old house wall.

As a masterpiece of design, the plate, without date and unmarked with the name of the artist, probably represents the highest point reached by the stove mould carvers of Germany. Maintaining all the flatness and conventional balance of a piece of fine brocade, it expresses in a manner foreign to a picture, what might be called a filagree, composed, not of geometrical forms, as in the panels of the Alhambra, or of birds and animals interwoven in foilage, as in the borders of the Italian Renaissance, but of men.

The modern believer in "Art for art's sake," while admiring the treatment, cannot overlook the meaning which the ancient designer, laboring for Christianity, has expressed with intense sincerity, like a sermon, and explained with inscriptions.

Brutal and gorgeous, in the dress of a prince of the 16th century, the Rich Man with his noble spouse is seated at table in a splendid saloon. Behind him as if playing at the top of their bent, stand the musicians of an orchestra. The trumpeters puff their cheeks as they lean backwards, the flutist blows, the drummer rattles. A smirking jester stands behind the plumes of his master's hat. To the right and left two seated guests enjoy the fine fare. A servant carries the dishes and the Rich Man holds a goblet in his hand. He will taste Rhenish wine in a cup of Venetian glass. But it is no revel or orgie. The proud lady seated respectably at table is his wife. The high living is not to be criticised, according to law and order, either in the 16th or 20th century.

But just below, and beneath what appears to be a staircase behind a balcony, as a note of awful discord, a ragged figure, terrible in disease and misery, lies upon the earth grasping a crutch. Deserted by all, save the dogs that lick his sores, he holds out a bowl for food. As his mantle flutters in the cold wind, a cruel servant drives him off with a whip. DER. ARMER. BEGERT. VON. DEM. RICHEN. ZO. SPISEN. "The poor man asks to eat at the rich man's table."

Then the scene changes; lights, music, feast are gone. Close in space, but beyond a staircase whose steps are years, we see the Rich Man in a pavilion with fretted ceiling which

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broad empty space sometimes left between the pattern and the edge of the plate, showing them to have been pressed in the sand after the border was stamped, or that several smaller loose designs were pressed into the sand to make one pattern. Sometimes in the 16th and 17th centuries, advertisements of the names of furnaces fill the entire lower panel, and a close study of the plates, stoves and old furnace records which, in Hesse, Bickell has recovered for the years 1553 to 1556, 1573, 1576, 1591 and from 1606 to modern times, has enabled the writers above quoted to rescue from oblivion the names of a number of pattern carvers, casters and iron masters.[48]

But we look in vain in encyclopedias and

seems to float in the air. He lies dying in a bed, upon which a fiendish beast climbs to seize his soul as in woman's form it flutters from his mouth. DER. RICH. STIRB., "The rich man dies."

As pleasure ends, so ends misery. Still in the enchanted network of the designer, though but a few inches away, we see the poor sufferer, Lazarus, nearing rest at last, as angels hold his head and carry away his soul to Heaven.

Then, across the bounds of time and space, but enclosed within the spell of the design, we see, first, the poor man cherished in the lap of the King of Heaven. LASERU. WRT. (WIRD) G. (GETROSTET). "Lazarus is comforted." And next into hell itself across the Great Gulf where writhing in devil-headed flames, the rich man touches his parched tongue. DER. RICH. GERICHTET. "The rich man is judged." Or perhaps as Sibenaler deciphers it, DER. RICH. ABER. NICHT. "The rich man is not (comforted)."

Two other remarkable stove fragments, one a right plate in the Historical Society Museum at Marburg, dated 1550, by Philip Soldan, of Frankenburg in Hesse, illustrated by Bickell (Eisenhutten des Klosters Haina, No. 7), the other a left plate undated and of unknown authorship, illustrated by Lasius, (Stahl und Eisen, March, 1912, opposite page 520, Figure 16), present the same subject, in more or less the same manner, as if an ancient original designer's pattern had dwelt in the memory of the artist. Both plates show the orchestra and feast, the beggar and the dog, the two death scenes, diabolic and angelic, the spirits issuing from the mouth, and the vistas of Heaven and Hell in the same six panels similarly placed. But Soldan's plate with a heavy filigree above the pattern, introduces a violinist, an ape, a cup bearer and female servant at the feast, varies the composition of all the scenes and omits all but the last inscription. DER. RICHER. DES. ARMEN. VERGAS. BIS. ER. IN. DER. HELLE. SAS. LUCE. AM. 16. ("The rich man forgot the poor man until he sat in hell." Luke, in the 16th chapter.) The Lasius plate, comparatively rude and clumsy, though far more closely following all the details of composition of the pattern here shown, omits one of the dogs, one of the trumpeters, and the flute and drum, introduces a third guest at the table, changes the inscription, and entirely recomposes the drawing of the servant with the whip.

Nothing could show more clearly than a study of these patterns that the making of a design and the production of a picture from the painter's point of view, are, as they always have been, two distinct arts; and when several writers have tried to discover or prove that the old stove-mould carvers were copyists of pictures, engraved or painted, or drawings made by contemporary pictorial artists, they confuse decorative with pictorial art, and credit the designer where they should condemn him.

Where, as Kassel shows, several stove plates appear to have been copied from pictures in old Bibles and song books examined by him, and, as J. Lasius illustrates (Stahl und Eisen, March 28, 1912, page 522), a castiron sepulchral plate, about the size of a stove plate, dated 1519, by Loy Hering, from the Carmelite Church at Boppard, on the Rhine, was copied from Durer's woodcut of the Trinity of 1511, which the designer has tried to balance by filling in with extra figures, the examples illustrated show at once their inferiority as designs.

Why should the mould carvers of the 16th century have copied, as Beck says (Geschichte des Eisens, 2-306), pictures by Albert Durer, Aldegrever, Solis and Amman, whose pictorial sketches would have confused and mislead them (as painters of to-day mislead the designer) by tempting them to express atmosphere, distance and perspective in castiron?

The fact that in an oil painting or engraving the foreground may consist of but one-third of the pictorial surface is no help to the designer, who must abandon perspective and distance. Here the foreground which comprises four-fifths or five-sixths of the surface of the pattern, tells everything. The figures are out of proportion. The drawing is conventionalized or cramped, so as to bring human and architectural forms into decorative balance. Distance, atmosphere and perspective are abolished. The pavilions, staircases, columns and arches though floating in the air without support no less convey their meaning. The figures live, and move in splendid halls and sumptuous pavilions, vivid for the moment yet unreal as the panorama of a dream. Heaven and hell, death and life are brought together yet set apart in vanishing and elusive panels, not as a painter paints. Neither in the 16th or 19th century did pictorial artists make such things. If Durer had produced such patterns he would have departed from the conditions of his pictorial art, and nothing in his decorative panels known as the Triumphal Arch and Car of Maximillian can be compared to this masterpiece, which might rather be likened to mediaeval panels of stained glass or carvings in the Cave temples of India or certain examples of Chinese fretwork, where human groups clamber through pavilions interwoven in decorative forests. Art, remaining the servant of religion, maintaining its meaning as of the highest importance, explaining it with inscriptions, deals skilfully with the aesthetic effect of balanced masses of decoration, and without the help of atmosphere, perspective or distance condenses a significant theme of Scripture into the smallest compass.

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dictionaries of artists for the name of Philip Soldan, of Frankenberg, who, in the early 16th century, at the beginning of the Reformation, while Luther was living (about 1537-1555), designed the magnificent patterns above noted for the furnaces belonging to the Abbey of Haina in Hesse, and there must have been a great number of masters as yet unknown to account for the multitude of designs of high artistic importance, yet to be studied in various parts of Europe, such, for instance, as the remarkable pattern of Lazarus and the rich man in the Museum at Porte de Hal in Belgium. (See Figure 17.)

If this splendid pattern, or the magnificent designs of Soldan, illustrated by Bickell, had been executed on any other material than black iron, they might have challenged more attention. Nevertheless, Germany might well be proud of Soldan and of the antiquary who saved his name from oblivion, while no need remains for Beck or Heger (guide book of the Bavarian National Museum for 1908, p. 183) to speak of patterns for stoves borrowed from Durer, Aldegrever and other pictorial artists whose work in producing pictures rather than designs, would probably not have vied with the achievements of Soldan, or the unknown carver of the Lazarus plate.

CHAPTER II.

The Decorated Iron Stoves of Colonial America.

JAMB STOVES IMPORTED FROM EUROPE.

The first cast-iron five-plate or jamb stoves used in the United States were undoubtedly imported from Europe and constructed like the German (Norse) stove shown in Figure 1, which is again illustrated here. (Figure 18.)

This is well proved by the evidence gathered concerning two of the plates in the following collection, one of which, Figure 19, represents Christ in conversation with the woman of Samaria, as described in John, 4th chapter, 7-42 verses.

First brought to the writer's attention by an undated illustration cut from the columns of the Metal Worker Magazine, this beautiful plate long eluded discovery and study. A description accompanying it was lost in the unindexed files of the magazine. A recast of the original plate by a former editor had been mislaid or stolen at the office, and the author's search was abandoned when an advertisement discovered the plate in the possession of Mr. John S. Eels, at Walton, N. Y., and traced it to the workshop of a hatmaker, who, about 1830, had used it as the top of a warming box in the manufacture of hats.

But the details of this search, lasting several years, and often abandoned and interrupted, were not so interesting as the later chance discovery, that a whole series of old stove plates in Hesse, illustrated by Dr. Herman Wedding, in his paper on Iron Stoves, in the Harzverein proceedings for July, 1892,

18.

Swedish Five-Plate or Jamb Stove.

standing on its original position. See Fig. 1.

with the seated figure of Christ, the well with its tile roof and pulley, the woman with her tankard dressed in the costume of the 16th century, the mediæval city with towers battlements and gateways in the background, the word "Christ" on the seat and "Jacob's Brun" on the well curb, with the longer inscription below, closely though not exactly resemble the pattern in question now in possession of Mr. Eels.[19]

At last Mr. George Von Collin informed the writer that an exact replica of the Walton plate, with its monogram AF and its initials A and B, exists in his private collection at Hanover.

This settled the matter. The date of the Hanover replica alone, 1663, differs from that, 1659, of the American plate. But that only

19.

The Woman of Samaria

Front plate of Jamb stove. Size, about W. 22 by H. 27. In possession of Mr. John S. Eels, of Walton, New York.

First described and illustrated by a wood cut in an unidentified old number of the Metal-worker Magazine, of 14 Park Place, New York, and long lost, but found at last in the un-indexed files of the journal, whose editor had made a re-cast (by Rathbone Sard & Co., stove manufacturers, of Albany, N. Y.) of the plate, also lost. The original was finally traced, through the kindness of the later editor, Mr. F. K. Chew, by advertisement, to its present owner, whose father, Henry Eels, had obtained it about 1850-1860, from a hat maker (William Graves, at Walton, New York), who had bought it from another hat maker of Walton, Zerah Baldwin, who had used it set upon bricks, face downward, over a fire to heat hat irons.

Thereafter, a series of illustrations in "Eiserner Ofenplatten," by Dr. Herman Wedding, showing several plates at the Marburg Museum in Germany, closely resembling, though not duplicating the Walton plate, and another generally similar pattern, dated 1613, recently bought in Germany, and now at the Metropolitan Museum in New York, showed that the Walton plate with its four characteristic marginal notches, had undoubtedly formed the front of a five-plate or "Jamb" stove, imported into colonial America from Germany, before the establishment of furnaces in New York, New Jersey or Pennsylvania, and that its design had followed an ancient German pattern closely similar in composition, copied with free variations in dress and details, at several old furnaces in the Hartz.

Finally, in June, 1911, the writer received a letter from Mr. G. Von Collin, of Hanover, to whom a photograph had been sent, stating that a replica, "With the monogram A. F., the letter B, and the letter A," but dated four years later, namely in 1663, existed in the collection of the latter.

To the left of a well worked by a pulley, beneath a tiled roof, stands the Woman of Samaria, in a costume of the 16th century, a tankard in her right hand, while her left holds the bucket handle, still fastened to its chain and resting upon the well-curb. Christ, seated to the right upon a stone bench, marked with the word "Christ," and leaning forward in conversation, points with his left forefinger, while his right hand clasps his chest. Above him stand three disciples, while behind him, a group of figures issuing from the arched gateway of a mediaeval city, with steeples, tiled roofs, gardens and battlements, fills the background. Over the disciples' heads, the monogram AF appears upon the pattern, and the letter B is cast upon the sky in the upper left corner. The words JACOBS. BRUN., "Jacob's Well," appear on the base of the well-curb, while the words VOM. FROLIN. VON. SAMARIA. JOH. 4., "Of the girl of Samaria, John 4," omitting the word "Historia" which appears on some of the European plates, extends across the base of the foreground.

Below, in a much rusted separate panel, two flying angels hold between them the letter A, forming perhaps part of another monogram, the whole pattern being flanked by the figures of the date 1659, read horizontally from the four corners.

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shows that the German founders, as is well known, redated their old patterns.

If cast, according to its date, in 1659, and therefore before the construction of any furnace in New York or Pennsylvania, the Walton plate could not have been made here either directly from an older stove or from the wooden pattern brought over. Because of this, and because the same wooden pattern was used four years later in Germany, and because, on the other hand, it would be unreasonable to suppose that an early American furnace recasting such a pattern from the iron original half a century later, would not have changed the date, we must suppose that one of the old furnaces in Hesse had cast the Walton plate, four years before the Hanover replica, and that the former had been exported to America to be used in a stove by colonists, several years before any of the American furnaces which would have cast such a stove had existed.

The details of the history of Figure 20, representing the miracle of the widow's oil blessed by Elisha, which first appeared as a doorstep at a farmhouse near Fegleysville, Montgomery County, Pennsylvania, and then twice in replica, in the old Senate House and at 22 Fair Street, Kingston, New York, are hardly less interesting than those of the Walton plate, Figure 19, with its replica at Hanover. The style of the pattern is much

20.

Miracle of the Widow's Oil.

Left plate. Size, H. 20 by W. 28¾. In possession of Mr. Valentine B. Lee, of Oak Lane, Philadelphia; found by him about 1900, as a stepping stone at the porch steps of a farm house near Fegleysville, Montgomery County, Pa.

The widow, blessed by Elisha's miracle, appears twice in the pattern. First, in the left vaulted canopy with a bucket upon her head, while her three children facing the right and left carry buckets, or wooden tygs, in their hands. The left child stands before the door of a tiled house or pavilion with two windows, while the other to the right, dressed in a flowing mantle, walks on the top of two vases.

In the right canopy, or second picture, the widow again appears, pouring oil from one urn into another, while two of her sons, one holding a jar on his head, another in his hands, fill the remainder of the canopy. Below, in a medallion enclosed by scrolls, is the inscription, which, judging from the oval welt surrounding it, has been inserted in the mould out of level, or stamped with a loose board upon the sand, IM. 2. BUCH. DER. KONIG. AM. JDG. 4 CAP. "In second book of Kings, JDG, 4th chapter."

Three examples of the pattern, representing parts of two stoves have thus far been heard of in America. (1.) The above.

21.

Miracle of the Widow's Oil.

(2.) Figure 21, a left replica, at the old State House Museum at Kingston-on-the-Hudson. (3.) A right replica, in possession of Miss Westbrook, at 22 Fair St., Kingston.

Another replica is figured by Kassel in his "Plattenofen im Elsass," Figure 88, as in the possession, in 1908, of Farmer Matthis, at Dunzenheim, in Alsace. The latter shows conclusively that the American plates were imported from Germany, or cast in America directly from German originals or from a mould so imported. In the Dunzenheim plate, the monogram JDG, which Kassel supposes to stand for JD the caster's initials, and G-GEISLAUTERN furnace in the Palatinate, are erased, throwing the inscription still surrounded by the welt noted above, out of center, and showing that the American plates came over seas in their original unmutilated form.

later than that of the Walton Hanover design, but the crowded, busy scene, under round vaulted canopies, the widow carrying a bucket on her head, appearing perhaps twice, as pouring oil from the miraculous jar, the sons and neighbors carrying jugs and buckets, the storehouse with tiled roof to the left, with the inscription below, illustrate in a confused and fanciful, yet rich and beautiful manner, a theme repeated with endless variation, according to Kassel, by the German stove makers.

The plate, unlike Figure 19, is not dated, but as its duplicate, Figure 21, is also a left plate, according to the method of construction explained in Chapter I, the latter proves conclusively, though no front plate has yet appeared, that two complete stoves of this pattern existed in America.

The words, "Im 2 B.DES.KONIG.AM. JDG., 4 CAP." (in second book of Kings, in JDG., 4th chapter) filling the lower medallion, are surrounded by an oval welt, proving that the inscription has been separately stamped upon the casting sand, or that the original wooden pattern has been sawed out and refitted with an extra legend.

But more interesting than these details is the fact shown by an illustration in Dr. Kassel's Ofenplaten und Plattofen im Elsass, Strasburg, 1903, Figure 88, that the plates from Kingston and Fegleysville are replicas of a plate now in the possession of Farmer Matthis at Dunzenheim in Alsace.

Strange to say, in Matthis' plate the monogram JDG, which Dr. Kassel says may stand for the name of the pattern maker, or

22.

Oil Miracle of Braunfels.

Size, W. 28 by H. 26. Dr. Joseph P. Tunis, St. Martins, Philadelphia.

This beautiful plate with two bolt notches in German fashion on the narrow left margin, was found in 1909 upon the information of Mr. Wm. T. Bullitt, set as a fireback in the hall fire-place at the house, No. 1322 Locust street, Philadelphia, built about 1875 by Dr. Caspar Wister.

A replica of Figure 53, the David and Goliath plate, had been set in an upper chamber of the same house, and it appeared, after numerous inquiries among the relatives and friends of the late Dr. and Mrs. Wister, that the former had probably found the plate in an old house belonging to the Wister family in Germantown and removed it, about 1870, to its position as found by the writer.

With its seven figures closely crowded, holding buckets, pots and jars, under vaulted pendants with tube-like keystones, with its ovate fretted borderings, its pile of barrels, row of vases and storehouse to the left, it closely resembles, without duplicating, Dr. Kassel's illustration, No. 85, in Ofenplatten im Elsass.

The ancient rhyme reads:

DAS. OEHL. GAR. REICHLICH. SICH. VERMEHRT.
DER. SOHN. VOM. TODT. ZUM. LEBEN. FUEHRT.
IM. TOD. SICH. GOTTES. GUHT. BEWEISSET.
MIT. WENIG. BROTS. VIEL. MENSCHEN. SPEISSET.

"The oil full richly increases. The son from death to life turns. In death God's kindness proves itself. With little bread many men eat," or very freely translated:

The widow's oil did richly grow.
God's mercy in the tomb did show.
A boy to life rose from the dead.
A hundred men on few loaves fed.

It varies from the version given by Kassel in the word FUEHRT and the spelling of BEWEISSET and SPEISSET, while the inscription on the central cartouche, advertising the name of the caster, furnace and date, was recently deciphered by Dr. Kassel from a photograph, sent to him by the writer for comparison, as follows:

WILHELM. MORITZ. G. Z. S. BRAUNFELS. 1707.,
WILHELM MORITZ, GIESSER, ZU SOLMS, BRAUNFELS,

(district of Wetzlar, province of Westphalia, formerly a furnace near Frankfort-on-the-Main, in the old county of Solms). This settles the origin of the plate in Germany, but not the date of its importation.

After modern American architects had revived American colonial architecture in the United States about 1885, and reintroduced the long disused open wood fireplace, a gradually increasing number of European stove-plates, such as the series recently purchased at the Metropolitan Museum, New York, have been imported by dealers and bric-a-brac lovers for house adornment or use as firebacks. But all the evidence shows that this plate can not be thus accounted for, and that it came to America, not as a piece of bric-a-brac in the late 19th century, but as part of an original stove brought to Philadelphia in the early 18th century, and probably used in Germantown, before any furnaces had been built in Pennsylvania, New Jersey or New York.

The German plate above noted in Ofenplatten im Elsass, is dated 1661, and clearly cast with the name H PHILIPS. SORG. HUTTENMEISTER. ZU. WEILMUNSTER.; and Kassel says that a very large series of German plates copied or plagiarized from each other, and cast in the 17th and 18th centuries at various old German furnaces, represent the same subject.

The design may be regarded as a decorative theme with endless variations, to trace which back to its original, requiring a comparison of the plates now in the German Museums, would be very interesting. Bickell suggests (Eisenhutten des Klosters Haina, page 19), that Jost Schilling, an ancient pattern carver of Waldeck, who according to an item in the archives at Marburg, was ordered to carve several Oil Miracle stoves about 1591, probably originated the fashion, afterwards so universal, of setting the stove designs under vaulted Renaissance canopies supported on pillars. But here we have to account for the fashion not only of the canopies, but for that no less marked of the grouping and the rhyme; and whether Schilling composed the rhyme or originated the grouping, Bickell does not say. But he does state that the style of the Renaissance vaults (representing the downfall of the older Gothic wood carving), with legends placed in the lower panel, was carried to excess at Weilmunster after 1580. Kassel (page 54) is inclined to derive all the oil plates in question, rhyme included, from Weilmunster: and if he is right in supposing that his Figure 85 of 1661 is one of the Urplatten, or original patterns for the whole series, then we are justified in tracing not only our Figure, but all the other Oil Miracle plates here shown, to the old Nassau Furnace, and possibly to the authorship of either Peter Sorg, or H. Philip Sorg, his son or descendant, who were casters or ironmasters at Weilmunster in the 16th and 17th centuries.

Beck, who says (Geschichte des Eisens, page 314), that the first Peter Sorg was a well-known iron caster of the 16th century who cast many stoves marked with his name, once popular in Nassau and the Middle Rhine, illustrates a plate, Figure 82, showing the beheading of John the Baptist, with the inscription: N. PETER. SORGE. HUTTENMEISTER. ZU. CHRAFT. SOLMS. UND. GERTRUD. SCHERESS V. CASSEL. S. H. F. (Seine Hausfrau, Anno 1586). Another plate, also illustrated by Beck, set in a tile stove with the same pattern, dated 1597, but minus the advertisement, is in the Wiesbaden Museum.

Beck further says that H. Philip Sorg was a son of Peter Sorg, and that the Bavarian National Museum has a plate, probably a replica of Kassel's Figure 85, with the same rhyme, and inscribed H. PHILIPPS. SORG. HUTTENMEISTER. ZU. WEILMUNSTER., and (Volume 2, page 1084), that Philip Sorg was at Weilmunster in 1657 and died in 1691.

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the caster, or with its final G for Geislautern, a foundry in the Rhenish Palatinate, has been erased, either by cutting the monogram off the wooden pattern or erasing it in the sand (probably by a rival foundry in recasting), so as to throw the inscription out of the

23.
The Miracle of the Oil

Right plate. Size, W. 29¼ by H. 26¼. At the Berks County Historical Society.

Found by Mr. B. F. Owen at the house of Mr. Garrion Guldin, near Monterey, Berks County, Pa., in 1909, standing in a barn yard leaning against a chicken house, its existence being unknown to the family. Three canopies with twisted columns, supporting decorated arches underhung with scrolls, festoons and curtains, divide the scene of Elisha's miracle with the Widow's Oil, 2nd Kings, 4th chapter, into three parts. To the left, the widow, with uplifted hands, approaches the Prophet; in the middle the widow pours oil from the miraculous jug into one of three large vases, while another female carries a large jar. To the right, a man pours oil, while a woman carries a vase upon her head. The old rhymed inscription so frequent in Germany as cast upon Figures 20 to 28 is replaced by the inscription

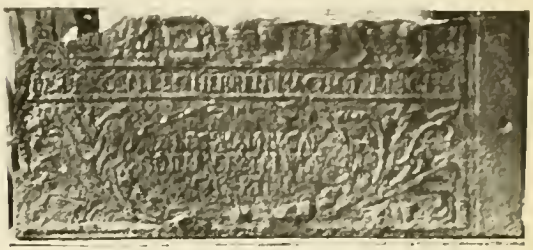
GOTTES. SEGEN. MACHT. REICH.

"God's blessing maketh rich"—in the central cartouche, while the legend

II. REGUM. IV. CA.
GOTT. ERNHERT. DIE.
WITWEN. UND. VER.
MEHRT. IHR. OEL.

"2 Kirgs 4 Chapter, God nourishes the widow and increases her oil," fills the medallion below. Kassel, who (in Ofenplatten im Elsass, Strasburg, 1903) describes and illustrates seven varying patterns of the Oil Miracle, as expressing for the household the all-powerful help of Christianity, and the divine reward of piety, in earthly food, health and riches, says that this theme, indefinitely varied in treatment, has appeared more frequently in Germany upon the ancient stoves, than any other Biblical subject except that of the wine miracle at Cana.

The notches on the narrow left margin, for reasons explained in the text, show that the plate was probably imported from Germany about 1700, or before the establishment of American stove making furnaces.



24.
The Oil Miracle.

Fragment of right plate. Size, H. 12½ by W. 28. Bucks County Historical Society.

The much rusted fragment showing the bolt notch in the left margin, is another version of the Oil Miracle series of patterns, described by Kassel, above cited, without illustration (Ofenplatten, page 56); and no doubt forms part of a stove imported from Germany in the early 18th century. It was found walled in the cellar window of a house belonging to Mr. Enos B. Loux, of Hilltown, Bucks County, Pa., in 1910.

The general treatment of the plate and the inscription resembles that of the other miracle plate, Figure 23. Unfortunately, the break prevents us from tracing more than the base of two columns, several oil jars and the legs of the figures, just above the central cartouche filled with the inscription, here quoted more exactly than in Figure 23, from Proverbs 10-22, in Luther's Bible: DER. SEGEN. DES. HERREN. MACHET. REICH., "The blessing of the Lord maketh rich."

Below in a medallion framed with leafage, the inscription repeating that from Figure 23, but differently spaced and lettered, reads:

2. REGUM. AM. IV. CAP.
GOTT. ERNEHRT. DIE. WITWE.
UND. VERMEHRT. IHR. OEL.

"2nd Kings, in Fourth chapter: God nurtures the widow and increases her oil."

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center of the medallion, thus proving that the erasure was a secondary act, and that the plate came to America in its older original form, monogram included, from Germany.

As none of these three American oil miracle plates, nor the German replica, are dated, it is impossible to decide whether the importation occurred before or after the establishment of American furnaces (1720 to 1750) in Pennsylvania and New York, but it is safe to assume that the wooden pattern, which has undoubtedly been twice altered, as thus shown, remained in Germany, and that the plates here illustrated are either German originals, cast according to Dr. Kassel at Geislautern and so imported, or are direct recasts from imported German originals used in lieu of wooden patterns at one of the American furnaces.

The evidence of these oil miracle plates in replica in both continents is conclusive, but besides them eight more similar plates and fragments of plates, Figures 22, 23, 24, 25, 26, 27, 28 and 29, differing in construction from all the American plates hereafter de-

25.

The Oil Miracle.

Fragment of left plate. Size not learned. Berks County Historical Society.

The fragment shows a part of the usual scene represented upon Figures 20 to 28, with a part of the ancient rhyme

DAS. OHL. GAR. RE.
DER. SOHN. VOM.
IM. T.

It differs slightly from all the others above noted, and from all those illustrated by Kassel in Ofenplatten im Elsass, Norel, Strasburg, 1905, Nos. 83-88, though most closely resembling his No. 85, cast by Philip Sorg, Huttenmeister, at Weilmunster, in Nassau, in 1661, where, according to Kassel, the remarkable rhyme and pattern copied for two hundred years by many German furnaces with endless variations, probably originated.

Here again the old sermon in iron referring to four of the miracles in Chapter 4 of Second Kings; yet, with its picture illustrating but one of them, which for centuries had encouraged the German peasant and with him crossed the Atlantic Ocean into colonial America, appears broken, rusted and forgotten in the ruins of an old house formerly belonging to Egleman, the astronomer, near Reading, Pa., where Mr. B. F. Owen found it in 1910.

26.

Miracle of The Oil.

Right plate. Size, H. 25¾ by W. 28. Senate House, Kingston-on-the-Hudson.

Under three canopies, supported on twisted columns, adorned with decorative bands marked with sockets, and backed with fringed curtains and tassels, three scenes appear to be

scribed, have come to light during the writing of the following pages, which are hardly less certainly of original German importation and make.

The similarity in composition, not only to each other, but to the oil plates illustrated in Kassel, is unmistakable, and though none are exact replicas of Kassel's cuts, there can be little doubt that replicas exist in Germany and can be found. Moreover, two of them are dated (1677 or —71 and 1713) before the establishment of Pennsylvanian furnaces; and the construction of the plates, all but one of which are side plates, and all notched in the old German manner, is German rather than American, as explained in Chapter I, and differs from that of all the later American cast plates herewith shown.

Though alike in general treatment, they vary in details. Sometimes the scene appears to be divided into two panels and there is a great diversity in the details of the elaborated canopies which overhang it. Sometimes the oil cellar or storehouse with tiled roof, generally appearing at the left of the pattern, is absent. Sometimes one, sometimes two or more persons appear in the act of pouring oil, and sometimes the widow herself seems to be duplicated, while in one plate the prophet himself, generally absent, stands in the center of the pattern, staff in hand. The inscription varies. Sometimes we have GOTTES. SEGEN.

represented. In the middle, one of the sons pours oil from the miraculous jar into a wooden, hooped vessel, while another person stands behind a cask lying on its side, and a third figure balances a jar on its head.

In the left canopy, the widow with clasped hands, beseeches the prophet, who stands, staff in hand, behind a cask, and above the woman's head a curious welt, as of the warping of the end of a board in the mould, marks the background. In the right canopy, the prophet appears to be lifting up the dead son.

All the other rhymed inscriptions for this subject in our collection, with variations in spelling, repeat the rhymes found in Germany as noted in Kassel, page 54, and Beck, page 314. But this inscription differs from them all, and from the others here illustrated, in the italicised wording of the first and third lines.

DAS. OHL. *IM. KRUG.* SICH. *REICHLICH. MEHRT.*
DER. SOHN. VOM. TOD. ZUM. LEBEN. KEHRT.
INDEM. SICH. GOTTES. GUT. BEWEIST.
MIT. WENIG. BROD. VIEL. MENSCHEN. SPEIST.
2. REGVM. AM. 4. CAPITEL. AN. 1713.

"The oil in the jar richly increases—
The son from death turns to life,
In which God's bounty proves itself.
With little bread many men eat.
2 Kings in 4 chapter, Anno 1713."

Kassel traces the rhyme, as before noted, to the old Nassau furnace at Weilmunster and the probable authorship of Philip Sorg in 1561. Whether this derivation is correct or not, the rhyme does not appear on any of Soldan's patterns illustrated by Bickell, nor upon the ancient Harz plates of a hundred years earlier illustrated in Wedding's book, although Bickell finds proof in the archives of Marburg that Jost Schilling, of Waldeck, carved an oil miracle stove, undescribed as to pattern or rhyme, in 1591. Kassel points out the curious fact that though the inscription describes three episodes, namely the pouring of oil, 2 Kings 4-5, the raising from the dead, 2 Kings 4-35, and the miraculous feast, 2 Kings 4 44, the pictures on the plates as seen by him only illustrate one, the oil-pouring. Here however, as in some of the German patterns, we have illustrated the widow supplicating the prophet, not referred to in the rhyme, and perhaps, as a unique feature, the raising from the dead.

Again the notches on the left margin, indicating the German method of clamping, as explained in the text, as well as the date 1713, show that the plate was cast in Germany, and imported to America, before the establishment of stove-making furnaces in Pennsylvania, New Jersey and New York.

MACHT. REICH., OR DER. SEGEN. DES. HERREN. MACHET. REICH., from Proverbs, 10-22 (The blessing of the Lord, it maketh rich), or GOTT. ERNAHRT. DIE. WITWE. UND. VERMEHRT. IHR. OEL. (God nourishes the widow and increases her oil).

But most impressive is an ancient rhyme, embodying three of the miracles in Second Kings, chapter 4, which, like the fire, which once burned in the old stove, seems to glow with a benign warmth:

DAS. OEL. GAR. REICHLICH. SICH. VERMEHRT.
DER. SOHN. VOM. TODT. ZUM. LEBEN. KEHRT.
IM. TODT. SICH. GOTTES. GUT. BEWEIST.
MIT. WENIG. BROTS. VIL. MENSCHEN. SPEIST.

The widow's oil did richly grow.
God's mercy in the tomb did show.
A boy to life rose from the dead.
A hundred men on few loaves fed.

It is interesting to follow these varied renderings of the same subject back to Germany, where a perplexing confusion of the similar miracles of Elijah and Elisha in 1st Kings, 17, and 2nd Kings, 4, seems to have followed the pattern from the first.

Wedding, in Eisenhutten des Klosters Haina, page 19, quotes an order from a Countess of Waldeck who, in ordering one of these miracle stoves during a famine in 1591, calls the narrative of 2nd Kings, 4, "The Miracle of Sarepta." Centuries later a writer in 1907 confuses the original widow of Elisha in 2nd Kings, 4, with the Shunamite prophetess of Elijah in 1st Kings, 17, besides ascribing the whole representation to an advertisement for Colza oil.

As Kassel shows, this mixture of two miracles so nearly alike, the misplacement of the word Sarepta, and of the names Elijah and Elisha, together with erroneous citations, and inscriptions which fail to describe the scene depicted, frequently occur in the presentation of the subject.

Better perhaps than to hunt these anachronisms, or puzzle over inconsistencies, like the Hanau peasant, who, according to Kassel, often stands before his stove, Bible in hand, nodding his head in hopeless perplexity, let us repeat the memory haunting rhyme, whose sonorous words have so long and so often unfolded their quickening message.

Shall we wonder that the German emigrant brought it with him for heart's ease, in his conflict with the unknown dangers of the New World? Rather ponder on the changes which have removed the miracle stove from the household and buried it in ruins. The

27.
Miracle of the Oil.

Right plate. Size, H. 26⅜ by W. 26¼. Mr. Joseph H. Doran, 120 South Nineteenth street, Philadelphia. Bought by him about 1880 at Noble's Curiosity Shop, at Fifteenth and Chestnut streets, Philadelphia, and traced to the sale of the collection of a traveling showman, in an old house near Trevose, Bucks County, Pa., from whom Mr. Noble had obtained it about 1890.

Besides the evidence of the two notches on the left rim, the superior workmanship of this elaborate plate and the form and spelling of its inscription, would prove that it was made in Germany or recast from a German original. Among the six figures in the picture, two of them, the widow in the middle canopy, and another person to the left, pour oil from one jar to another. Another figure carries a jar on his head, but otherwise, excepting these four jars, all the oil vessels in the picture are basket-shaped buckets, carried in the hands of the figures, or wooden casks, thirty-two of which are stacked in heaps upon the floor.

The ridges mark where cracks in the wooden mould pass vertically down the right and middle canopy, and the heads of nails, used to fasten the carved boards to their battens, appear at various places in the inscription, in the middle and left canopies, and in the arches above.

As upon several of the German plates illustrated by Dr. Kassel, and slightly varied from those upon Figures 22 and 26, the inscription is easily deciphered below.

DAS. OHL. GAR. REICHLICH. SICH. VERMEHRT.
DER. SOHN. VOM. TODT. ZUM. LEBEN. KEHRT.
IM. TODT. SICH. GOTTES. GUT. BEWEIST.
MIT. WENIG. BROTS. VIL. MENSCHEN. SPEIST.
16.2. REGUM. AM. 4. CAPITTEL. 71.,

Freely translated as follows:

"The widow's oil did richly grow,
God's mercy in the tomb did show,
A boy to life rose from the dead,
A hundred men on few loaves fed."
2nd Kings, in 4th Chapter, 1671.

28.
Miracle of the Oil.

Right plate of Jamb Stove. Size, W. 24¼, H. 25½. Bucks County Historical Society.

The Plate is particularly interesting as part of a nearly complete Jamb stove, four pieces of which, namely, two sides, the front and a top or bottom plate, were found in February, 1914, by Mr. Horace H. Platt, of No. 5548 Ridge Avenue, Roxborough, Philadelphia, in an old house at Manayunk.

More rude and simple than the other oil Miracle patterns here shown, the design set in the usual frame work, forming two canopies on twisted columns, with cornice and tasseled curtains, shows two scenes. In the left, the widow, standing behind a cask, pours oil from one tankard into another, while her son carries a jar on his head and a bucket in his hand. To the right, the woman, kneeling on a stool, beseeches the prophet Elisha, who stands before her with uplifted right hand. The plinth under the foothold of the figures is adorned with two large baskets with round bottoms, which may refer to the bread miracle referred to in 2 Kings, 4, 44, while the old Weilmunster rhyme seen upon so many of these plates again appears, but here lacks the last two lines and reads:

DAS. OEL. IM. GRUG. SICH. RE.
ICHLIG. MERT. DER. SON. VOM. T.
OT. ZUM. LEBEN. KERT. W——
AM. 2. KONIGE. AM. 4. CAP.

The oil in the jar greatly increases. The son turns from death to life. W—— in 2nd Kings in 4 Chapter.

Like every other oil plate here illustrated, this specimen shows the two notches on the narrow margin, adapted for the ancient German method of bolting with loose gutter shaped rims. But Mr. Platt did not find these rims among the ruins of the stove, while the single top or bottom plate recovered lacks the projecting lip, characteristic of the American stoves here shown (see figures 36 and 37) perforated for the outside bolt, and proving therefore that no such bolt was used. As compared with the German plates, the two baskets and the

dangerous forest has disappeared. The log house is gone. The tools and implements of the pioneer, cast aside ninety years ago, are things of the past. The ancient fireplace and

its stove adjunct have been demolished. As the trolley rushes by the country road, or the talking machine sounds its incongruous song, the modern farmer, rich and prosperous, digs

tulip bearing vine stems, appearing as vertical borders, are peculiar. The figures are comparatively rude. But notwithstanding the illiterate spelling of the inscription, the cutting of words regardless of syllables, the upsetting of the Z's and the misplacing of G's for K's and CH's, the workmanship of the plate seems German rather than American. The rude Cana patterns (figures 49 and 50), as compared with the front plate of this stove, might be called Pennsylvanian in style, but here we see again the old German style of the old theme, unmistakably if freely copied, and we may reasonably suppose that the whole stove was imported from Germany into Pennsylvania before 1720.

29.

The Miracle of Cana.

Front plate of Jamb Stove. Size, W. 17½, H. 25½. Bucks County Historical Society. Found in 1914, with figure 28 in the hearth of an old house at Manayunk, Philadelphia, by Mr. Horace H. Platt.

The treatment with twisted columns supporting double vaults, the fringed curtains, tassels, vine stem with tulips and tulip spandrels, is unmistakably that of figure 28. Only one guest, the bride, crowned, as in the German specimens from Zinsweiler, illustrated by Kassel, is seated at the table, which is of the cross-legged German pattern, and on which one dish and two smaller objects, not quite obliterated by rust, appear. To the right and left stand figures holding tankards, while Christ, with uplifted right hand, appears to the extreme right.

The broad plinth below the picture is decorated with four tankards and the inscription, citing the Cana narrative in the Bible, set in a banded stripe below, reads: IOHAN. AM. 2 CAPIT. John in second chapter. The much rusted and abbreviated sentence in the small oval medallion beneath, set between sprays of tulips, may perhaps be deciphered as: GR. M WASER. ZU. WEIN. Gristus macht wasser zu wein. Christus makes water into wine.

As the right and left plates of this stove are replicas, we have here two distinct Biblical scenes, the Old Miracle upon the sides, and the Cana Miracle upon the front, represented on one stove, which, for the reasons given under figure 28, we may suppose was imported from Germany early in the eighteenth century.

30.

Samson and the Lion.

Left plate. Size not learned. In the "Cloister" at Ephrata, Pa. 1910.

With bared arms and dressed in a short-skirted Roman toga, the long end of which whirls in the wind above his head, Samson, with left knee upon the animal's back, and right leg laced in a buskin, tears open the jaws of the young lion. A scrolled canopy in rococo style resting upon corbels rather than columns, and adorned with a small pendant, overhangs the figures, while below, and separated by a dotted line, the inscription, interrupted by a rust hole, and placed within a richly scrolled border, cites the Bible, Judges 14. IVDICVM.XIIII, not in German, like all the American-made plates in the collection, but in Latin as in Fig. 23. Besides this, the dimensions of the casting, which, as a side plate to a five plate stove, narrower than its height, reverses the shape of nearly all the other American plates, and the two notches in the right rim for the admission of bolts in the German fashion previously described, sufficiently show that the plate, without considering the superior modelling of the figures, which is evidently done in the style of the 17th century, before the establishment of furnaces in Pennsylvania, was either made in Germany, or cast in America from a German original or mould.

Mr. B. F. Owen found and photographed the plate in 1910 in the so-called "Cloister" at Ephrata, Pa., built by the sect of Seventh Day Tunkers, or Baptists, about the year 1740.

31.
The Wheel of Fortune.
Front. Size, H. 27xW. 18¼. B. H. S. No. 16824.

A female figure, dancing upon a wheel, waves a long scarf in her left hand. In her right she holds a tasseled cap, of the shape celebrated fifty years later, in the French Revolution, as the Liberty cap. Four points project from the end of the wheel, ending in what appear to be tongues of flame. The picture is not separated by a band or lower panel from the inscription:

DU. FALSCHES. GLUCK.
DU. GBST. UND. NMST. AUCH.
DENE. GABEN. WAS. WILL.
EIN. GLAUBENS. KND. MIT.
DIR. ZU. SCHAFFEN. HABEN.

"Thou false luck, thou givest and takest again thy gifts. What shall a child of faith have to do with thee?"

But the remarkable feature of the pattern is the date, Anno 1726. This, marking it as the earliest supposedly American plate yet found, is very clear, and shows that the plate, which is the front-plate of a Jamb stove, constructed like all other American plates with the guttered rims cast solid upon its margins, if not imported from Germany, must have been cast in Pennsylvania, for the following reasons:

Notwithstanding the fact that Jamb stoves, decorated in this manner, were used in the early 18th century in the New York Colony by German and Dutch settlers, and notwithstanding the fact that plate stoves, though probably of the six-plate draught-stove type, and never decorated in German, were (according to Kalm, quoted by Swank, Iron in all Ages, pages 349-350) cast about 1749 at the Trois Riviéres Furnace in Canada (founded

the iron picture from his cellar wall or exhumes it from a gutter to be sold to the junk dealer.

Is its message gone forever, where churches proclaim weekly that man's eternal struggle with the ills of life is waged fiercely as of old? Is the wonder cure lost where the disease remains? Well that the potent rhyme stamped on these rescued plates must survive for many years to come or that we repeat it here and scatter it abroad.[50]

The dates 1677 on Figure 27, 1707 on Figure 22 and 1713 on Figure 26 furnish no absolute proof as to when the stoves were imported into America or used there, since old stoves, as well as new ones, might have been brought over and sold to the colonists. But we may reasonably infer that some new stoves, dated and made within a year or two of their importation, came over, and that these plates like Figure 19 and the beautifully modeled Samson plate, Figure 30, found at the "cloister" at Ephrata, also notched in the same way, represent stoves which were probably first used by Dutch settlers in New York, if not by Swedish and Dutch settlers on the lower Delaware before the English settlement of Pennsylvania, or by German colonists for a time after, namely, between the years 1659 and 1720, or until the colonists built their own furnaces and made their own stoves.

This brings us to an important point in the investigation, namely, the abandonment of European stoves and first manufacture of stoves in colonial America, and when we ask how when and where it occurred, for want of other evidence we must fall back on a few meagre data in old furnace records and the plates themselves, one of which, Figure 31, supplies important evidence.

FIRST AMERICAN MANUFACTURE OF JAMB STOVES.

This plate, first found in 1903 in use as a pavement under a water spout near Johnsville, in lower Bucks County, Pennsylvania, and again as a broken fragment three years later in demolishing an old house on Mount Penn, near Reading, Pennsylvania, thus appearing twice as a front plate and representing two five-plate or jamb stoves, rather than one, is adorned with the allegorical figure of Fortune dancing upon a flaming wheel, with flaunting scarf and liberty cap and with a rhymed German legend as described above, condemning those who trust their welfare to her favor.

1737, abandoned 1883), this plate could not have been cast in New York, Canada, Rhole Island, New Jersey, Virginia or North Carolina in 1726, since no furnaces then existed in the colonies named.

Nor can we reasonably suppose that it could have been made in Maryland, where no evidence has yet appeared that such stoves were ever cast or used in early Colonial times, notwithstanding the fact that the Mount Royal Furnace, founded 1723 to 30; The Gwynns Falls, 1723 to 30, and the Principio, 1724, were probably in blast in 1726.

The ancient Massachusetts Furnaces of Hammersmith, at Lynn and at Braintree, established in 1645 and 1646, were abandoned in 1688 and 1653, respectively, and though the New Haven, Connecticut, Furnace, 1658, and though Kings Furnace, at Taunton, Massachusetts (1724), might have been in blast in 1726, there is no evidence that any of them, at that time, ever cast plate stoves of any kind, much less stoves decorated and inscribed in a language generally unknown in the New England Colonies.

For these reasons we may infer that this plate, if made in America, was cast in Pennsylvania at one of three or four furnaces then only existing in the Colony. Not probably at the short-lived Keith's Furnace, 1725 to 8, in Delaware (then Pennsylvania), out of the zone of German settlement and house-warming stoves, or at Christine, alias Redding Furnace, then possibly in its first year, or at Kurtz's Furnace, 1726 (if such a furnace ever existed), but probably at Colebrookdale, founded in 1720, where the Furnace Ledgers, now in the possession of the Hon. S. W. Pennypacker, though the earliest are lost, show the casting of stoves after 1728.

On the other hand, the fact that the rims are here cast solid, does not prove the American origin of the plate, since although all the American plates in the collection are so constructed, and all the German plates here shown are cast for loose rims, nevertheless, according to Ambrosiani (Jarnkakelugnar, page 106), and as Johannsen illustrates (Stahl und Eisen, 29 Feb., 1912, page 337, Figure 18), solid rims were introduced into Germany in the late 17th century. Moreover, the word "Anno" prefixed to the date, and appearing on no other plate of certain American make, seems German rather than American, while the modelling of the well-spelled and well-carved inscription, with occasional rounded U's, resembles the work on the German orginals, Figures 22, 23 and 27, and the plates illustrated in the German books.

Not unreasonably, therefore, we may infer that the mould at least was not made in America, and that the plate, which having appeared in replica represents two stoves rather than one, was either imported itself from Germany, or cast at Colebrookdale, directly from an imported original or mould, when at the earliest days of the Furnace it might have been found easier to recast a new stove from an old one, or import the mould itself from Germany, than carve the latter in the first place.

The plate was presented to the Bucks County Historical Society in 1903 by Mrs. Sidney Montayne, of Johnsville, Bucks County, Pa., and found by her under the drip of a roof water-spout at a modern house at Johnsville, without clue to its earlier history.

A replica, Figure 32, less rusted, but with both rims broken off, was found in July, 1910, by Mr. B. F. Owen at the farm of Thomas Steigerwalt, in Alsace Township, Berks County, Pa., and is now at the Berks County Historical Society.

32.

The Wheel of Fortune.

Front plate. Size, H. 27 x W. 11½. Berks County Historical Society.

This fragment of a replica of Figure 29, proving the existence of two stoves of its kind, was obtained by Mr. B. F. Owen in July, 1910, from Mr. Thomas Steigerwalt, on Mount Penn, in Alsace Township, near Reading, Berks County, Pa. Some workmen (as described in the Reading Weekly Eagle for Saturday, January 4th, 1896) had, in removing an old log-house on Mr. Steigerwalt's property, found the plate in 1896, together with some smaller fragments, possibly of its side plates, sold by his sons to junk dealers. The date and inscription show more clearly than on Figure 28, and, for the reasons therewith given, we may perhaps ascribe the plate to Colebrookdale Furnace, built by Thomas Rutter and others in 1720.

Because it is not notched on the margin like Figures 19 to 29 and because, like all the other American front plates herewith shown, it has been cast with the gutter-shaped rims solid on its margins, it is not unreasonable to suppose that it represents one of the first stoves cast in America, notwithstanding the fact that Johannsen illustrates a German plate of this kind dated 1704 (Stahl und Eisen, 29 Feb., 1912, Figure 18) and Ambrosiani[69] says that side and front plates had been thus cast in Europe before 1726, and therefore might have been imported into America.

If this "Fortune Plate" of 1726 was made in America, we must believe that it was not cast in a stove factory of the modern type called "foundry," since, with a few possible exceptions in New England and Virginia, no foundries then existed, and all castings were made at blast furnaces direct from the ore.[51] Moreover, if made in America we need not suppose that it was cast at any of the old furnaces (or foundries) then in blast in Massachusetts, or Rhode Island, or Connecticut, where, it appears, they had no such stoves and no German colonists to buy them, nor at the then existing iron works in Maryland, or in Virginia where fireplaces rather than stoves were in use, nor in New York or New Jersey or Canada, where no furnaces existed in 1726, unless at Tinton Falls or Shrewsbury, Monmouth County, New Jersey (1682-4, of doubtful age, Swank, 147), but rather in Pennsylvania, where it might have been cast either at Colebrookdale, near Pottstown (founded 1720), or possibly at Redding, alias Christine, Furnace, in northern Chester County (founded 1720 to 1728), but nowhere else, since no other Pennsylvanian furnace then existed.[52]

No certain records of Redding furnace have been found, but a lot of old furnace ledgers of Coventry Forge, associated with Redding-Christine Furnace and other furnaces, now in the possession of the Hon. S. W. Pennypacker at Schwenksville, Montgomery Co., Pennsylvania, rescued a few years ago from the cartload of a junk dealer at Pottstown, and noting the sale of numerous five-plate or jamb stoves early in the 18th century, unfortunately fail to include the earliest furnace ledgers, and therefore to reach back to the date in question.[53] But as they begin entries of sales of five-plate stoves in 1728 at Coventry Forge for Redding Furnace, and in 1729 at Colebrookdale, nine years after the latter furnace was founded, they reasonably fix the time of the casting of the first American five-plate stoves at about the date of our plate (Figure 31) in question.

Because these ledgers, noting the casting and sale of the stoves in question, at the earliest Pennsylvanian furnaces between 1728 and 1770, make no mention anywhere of the loose gutter-shaped rims which must have been continuously made and sold with the stoves, or separately for them, if they had existed, we may be certain that when the colonists began to make five-plate stoves generally resembling the old German originals above described, they either never used the loose rims, short bolts and notched margins shown in Figures 2 and 3, or almost immediately abandoned them for the solid cast gutter-shaped rims shown in Figure 31 and introduced a method of fastening on the top plate, as hereafter shown, apparently unknown in Europe, but invariably repeated on all the American stoves yet found.

The furnace records above referred to, nowhere use the name "jamb stove" or "five-plate stove," but show that from the first entry at Coventry Forge in 1728 the five-plate stoves were continually called simply "stoves," in three sizes, "large," "middling" and "small," but rarely "Dutch" stoves, and very rarely "carved" stoves, and that they were made until about 1760 to 1768, when they were rapidly superseded by the "six-plate" (rarely called "English stoves") described later, and first mentioned in the ledgers in 1753.[53]

The ledgers further show that the five-plate or jamb stoves weighed about 448 pounds (large), 373 pounds (medium), 320 pounds (small)[55], and cost about five, four and three pounds sterling, respectively; that loose plates sometimes referred to as "top plates," "bottom plates," "right plates" and "left plates" were often sold, sometimes by the ton, and that once a lot of stoves were sold with "holes in the top plates," as if for the construction of an upper story in the German fashion of wrought iron or brick.[56]

But beginning with the first entry of a stove plate sold at Coventry Forge on July 25th, 1728, to the record of sale of a "Dutch stove" made at Pottsgrove on October 17th, 1768, the meagre notes in the Potts manuscripts which might have described everything, tell us almost nothing. Always in the English language, they make no reference to the invariable German inscriptions upon the stoves. Two "Dutch stove moulds" which, judging from the price, have been decorated with carv-

ing, are bought for six pounds ten at Warwick in 1745, and five shillings are paid at Popodickon for mending "stove moulds" in 1745, and five pounds to Henry Snyder, "the stove mould maker" at Warwick in 1755, but no hint is given as to the material or construction of these moulds or patterns, and beyond this no reference made to payments made to mould makers for their remarkable work, nor is the slightest idea given of the varied interest or significance of the plates themselves, which thus appear to be a peculiar and unnoticed German ("Dutch") product of furnaces generally owned and managed by English iron masters.[57]

Though the earliest records are lost, it does not appear that one furnace devoted more attention to stove making than the others, nor that stove casting began on a large scale or of a sudden. All the early entries in the Potts manuscripts (Coventry Forge, acting as an agent for Christine, called later Redding Furnace, 1728-9), note only the sale of single plates until 1738, when at last a complete stove was first sold. A load of complete stoves was noted as sold at Pine Forge for Colebrookdale Furnace in 1731.

From this we might infer that the making of stoves was suggested, as it were, or forced upon the English iron masters[57] by German colonists, who having brought iron stoves with them from Germany, came to the American furnaces to replace their broken stove plates with recasts.[58]

COLONIAL FURNACES.

The history of other furnaces, not included in these records, such as Durham, Bucks County, Pennsylvania, 1727; Cornwall, Lebanon County, Pennsylvania, 1742; Elizabeth, Lancaster County, Pennsylvania, 1750; Keith's, or Abington, in Delaware, then Pennsylvania, 1725-28; Martic, Lancaster County, Pennsylvania, 1751; Warwick, Chester County, Pennsylvania, 1738, and others listed in the Appendix, which existed at the time or within twenty years after, and may have made stoves, might explain much as to the manufacture of the first five-plate stoves in Pennsylvania, but their records have not been found, and very little light has been thrown upon the subject by colonial or later writers.[58]

Scattered statements in The Potts Memorial, by Mrs. Potts James; Iron Manufacture in the United States, by J. B. Pearse, and in Iron In All Ages, by J. M. Swank, ignore the making of stoves, and give but a meager account even of the construction and equipment of any of the furnaces which until the introduction of coal about 1840 (Pearse) continued an extravagant devastation of forests which had been limited by law in England. Burning only charcoal at the rate of two and a half cords of wood, or one hundred bushels of charcoal, per ton of melted iron,[59] the two miles square of primeval wood, which, according to Mrs. Potts-James, any furnace was supposed to require in the first place, must have soon disappeared. Cleared first for a large area around the furnaces by the long bitted European axes of the pioneers, the wood was stacked up in piles, fired into charcoal under earth-stopped fires, of Beech (best), black oak (most abundant), ash and white oak, continually smoking in the neighborhood, and sold or hauled to the furnaces, according to Pearse, in loads of 160 bushels each.

These writers say that Colebrookdale, like Redding, Durham, Keiths, Mount Pleasant, Martic, Cornwall, Elizabeth, and other old Pennsylvanian furnaces, consisted of a stone furnace stack, thinned at the top, about thirty feet high, and about twenty-five feet square at the base, enclosing an egg-shaped fire chamber with seven foot wall often lined with fire resisting slate, and about ten feet in the "bosh" or largest diameter,[60] and that the blast was produced invariably by a huge overshot water wheel, about twenty-five feet in diameter, revolving so as to expand and contract one or two immense, wooden, leather hinged bellows, about twenty-five feet long by five feet wide, of the common fire place pattern, or sometimes in the form of two closely fitting wooden boxes ("blowing tubs"[61]) compressing into each other, and whose one or two nozzles (tuyers) were directed through the stack wall into the fire chamber, so as to produce the required cold

blast that would liquefy iron ore. Above this, on the top of the stack proper, but still surmounted by a thin smoke chimney, and reached by a bridge from a neighboring bank or a high platform, was the charging door, where the ore (mined in superficial or underground veins, or gathered in loose lumps in swamps, or fished out of ponds as the celebrated "bog ore"[62]) was thrown. The charges of eighteen bushels of ore, alternating with twenty-four bushels of charcoal, with the limestone or oyster shell flux, were cast in from baskets, while at the base of the stack, the tap hole plugged with clay near the ground level, emitted the molten iron, about a ton at a time, every nine or ten hours, day and night for the sixteen or eighteen weeks that the blast continued.

The glittering metal ran out upon a flat sand bed, near the furnace, generally into a series of gutters, so as to harden into the so-called "pigs" or "geese," and these trough-shaped bars of rough cast iron from 4 to 6 feet long and 6 inches wide, shipped to neighboring forges to be re-heated and hammered into "bar" iron, as the raw material for all wrought iron manufacture, constituted the principal product of the furnace.

When on the other hand, pots, or the so-called "country castings" or stove plates were wanted, the metal was ladeled, thus at the first melting, either into the roofed or enclosed impressions of sand moulds, enclosed in frames, called "flasks," or in case of the stove plates, into the open impressions of the flat, rectangular moulds stamped on the sand.

Scorched and blackened casting sand, therefore, formed the floor of a lofty shed, built of logs, which surrounded the furnace, while outside, near by, stood the grist mill, blacksmith shop, sawmill, and carpenter shop, probably inside of which was the mould room, with its pot patterns, casters' tools, scorched sand flasks, and wooden stove moulds. Not far away stood the log stable, hay bins, charcoal house and masters' mansions with dwellings for indentured English, Irish and German workmen, negro slaves and a few Indian laborers.

STOVE MOULDS AND STOVE CASTING.

It seems remarkable that of the hundreds of moulds for casting the stove plates existing about a century ago, none should have been heard of as recently found in the United States. Notwithstanding the demolition, abandonment or modernizing of all furnaces, we might suppose that some of these interesting wooden panels, easily transportable, would rather have been carried off as curiosities by farmers, than in every case destroyed or lost, or that where the mould carvers worked independently at home and sold their products to various furnaces, some of the moulds would have remained in the houses of the workmen, or might have survived in some of the houses of their descendants, but no such discovery has been made. The German traveler, Dr. Shoep, in 1783, says that stove moulds were made of mahogany "because it warps least." (Sw. 187.) A letter from Mr. B. F. Owen to the writer in 1913, says that at Reading, Mr. W. D. Smith, of Joanna Furnace, remembered that the designs for stoves were cast on thin sheets of lead, nailed or glued upon frames of mahogany, and that he had torn off the lead of disused moulds, as a boy, to cast bullets. This coincides with the information given as to the German stoves, but the account refers not to the old "jamb stoves" but to the later "Ten Plate" stoves cast after the Revolution and in the 19th century. Accrelius, who notices the casting of Six Plate stoves at Troys Rivers in Canada, in 1747, does not describe the moulds. (Quoted by Swank, Iron and Coal, 1878, page 19.)[63]

Bishop, in his History of American Manufactures, page 555, speaks of the five plate stoves as jamb stoves made by Stiegel and Christopher Sauer, of Germantown, but says nothing of the process of casting. The Potts manuscripts above referred to only thrice record sums of money paid to mould makers, and the special writers here variously quoted, Potts-James, Pearse, Swank, Fegley, Montgomery, Watson, etc., ignore the question of stove making, and scarcely mention

the existence of the stoves, much less the moulds used to cast them. We must therefore fall back upon the inference that the old German iron "jamb" stoves were made in America, and cast in America, as they had been manufactured in Germany, that is to say that the moulds were carved in low relief by cutting out the background on a framework of two or three boards, backed with transverse battens, that these moulds were stamped directly upon the open sand, and the cast made without flasks.

Colebrookdale, Redding, Keiths and Durham, established in the Pennsylvanian forest sometime before the Indians had finally yielded up their soil, have long fallen to ruin. Heaps of slag, overgrown with brambles, deserted shafts, or superficial diggings alone mark their sites. The moulds and patterns, tools and appliances are lost. The descendants of the carvers and designers, if they survive, have no tradition of the work of their ancestors. No unmodified survival of the old casters' work exists at any of the modern stove foundries.[84] One of the old five plate or jamb stoves, found standing in a walled up corner of an ancient house in Philadelphia a few years ago, as described to the author at a lecture, was immediately pulled to pieces and melted, another, the stove illustrated in Figures 33, 34, 36 and 37, probably the last remaining in Pennsylvania in its original position, was demolished in 1907. The Pennsylvanian farmer who has saved the loose plates to use them for chimney tops, door steps and hearth pavements, has lost all recollection of their origin and meaning, and from a fruitless series of inquiries at old farm houses, and searches in forgotten records, we turn back to the evidence of the plates themselves.

AMERICAN FIVE PLATE OR JAMB STOVE DESCRIBED.

The five plate stove shown in Figure 33 as the most nearly complete example of its class thus far found, stood until 1907 in its original position in an old house near Reading, Pa., when it was demolished and its bolts, and legs, if it had any, lost, before Mr. B. F. Owen found it, and presented it to the Berks County Historical Society.

33.
The Tenth Commandment.

Complete five-plate stove. The top, bottom, sides and front plates mounted for exhibition at the Berks County Historical Society. Size, front, W. 21 by H. 23¼ inches; sides, W. 25¼ by H. 23¼; top, 27¾ by 21 inches.

This stove, whose front and side plates with their inscriptions are described under Figs. 34-37, had stood in its original position for about one hundred and forty years, until 1907, in a house formerly belonging to Samuel Schweitzer, in Brecknock Township, Berks County, Pa., when, during alterations to the building, it was demolished and removed. Mr. Elmer E. Billingsfelt, of Adamstown, Lancaster County, having found the plates in a pile in the spring house, obtained them and presented them to the Berks County Historical Society.

The original bolts and legs are missing, and the bolting here shown, intended to hold the stove together in the museum, has nothing to do with its original construction.

As it is dated 1756, or thirty years after the first record of stove making in the Furnace Ledgers above noted, it is of late make, and its peculiar decoration to be described hereafter, is of a late type. But its construction exactly represents that of all the five plate non-ventilating or jamb stoves of American make hereafter described and thus far known to the writer.

Protruding into the room like a box about two feet square, without fuel door and smoke

34.
The Tenth Commandment.

Front plate. Size, H. 23¼ by W. 21. Berks County Historical Society.

Single canopy with pendant vault, aureole, flower-pots, tulips, stars, and the date 1760. Here, as shown more completely in Figure 33, we have a complete five-plate stove, the only one yet found, brought to light in 1909 in one of the enthusiastic searches of Mr. B. F. Owen, of Reading, through the instrumentality of Mr. E. E. Billingfelt, of Adamstown, Lancaster County, Pa., who had rescued it after the unfortunate alterations in 1907, of an old house formerly owned by Samuel Schweitzer, in Brecknock Township, Berks County.

This stove was in situ in 1907, and if the modernizers had let it alone, would have remained so to still fully illustrate the size of the wall hole and flue, position in the fireplace, method of propping up, etc., as the only instance of a five-plate stove occupying its original position, thus far found in the United States. The motto begun on the left plate, Figure 35, herewith shown, from Exodus 20-17, LAS. DICH. NICHT. GELYSSTEN (thou shalt not covet) here ends with DEINES. NEST. STEN. GUT., "thy neighbor's goods," the word GUT, for goods, instead of HAUSES (house) as in the original, supplying the fuller meaning of the commandment. The sheep's heads, from which tulips sprout, on the side plate, Figure 35, have been here transformed into circles.

The cracked replica, Figure 34A, in the Bucks County Historical Society, forms part of another similar stove, minus the right plate, found with a left plate and a top and bottom plate, together with other plates of other stoves, in the kitchen hearth and scattered about the mill, chicken-house and tobacco-shed, at John Illig's old house, built in 1732, at Millbach, Lebanon County, Pa., by Mr. B. F. Owen, in August, 1909.

34-a.

35.
The Tenth Commandment.

Left plate of Jamb Stove. Size, W. 25¼ by H. 23¼. Bu[ck] County Historical Society. From Mr. B. F. Owen. Found [by] him in an old house belonging to the Illig family at Millba[ch], Lebanon County, Pa., about 1909.

This is the companion side plate to Fig. 34, though [the] ornamental details of the aureole and floral caponies vary c[on]siderably. There is no difficulty in deciphering the inscript[ion] upon the central cartouche beginning the tenth Commandm[ent] from Exodus 20-17 in Luther's Bible, LAS. DICH. NIC[HT] GELYSSTEND., Thou shalt not covet—completed on the o[ther] plate, but the puzzling sentence on the lower medallion g[ives] the plate a provoking and peculiar interest.

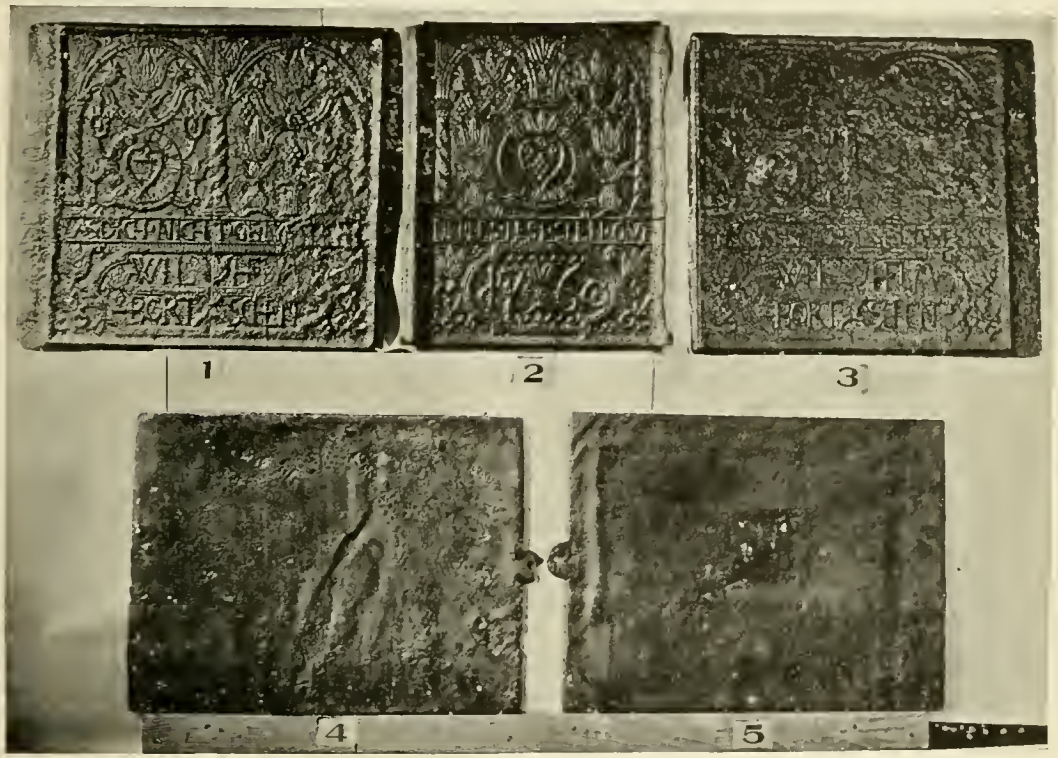
So obscure are many of these abbreviated, ill spaced, rusty and disjointed inscriptions to modern, and even practiced eyes, that we may well ask whether the old mould carvers wanted them read, or whether the unlettered settlers could read them. But who that has studied them can deny the pleasure of their decipherment, or forget those solitary moments, when, half hypnotized by long concentrated gaze on the iron flashing in reflected light, the meaning, suddenly escaping from time's oblivion, startles us like the voice from dreamland that wakes a sleeper.

Here it is not the Biblical sentence, but the brief advertisement that defies explanation. We need not rub with kerosene, polish with beeswax, or twist the viewpoint in various lights. The letters are all clear. But no concentrated gaze, whether by the midnight oil or in the fresh glow of morning, has availed to surely solve the secret of these two or three words which are not at all obscured by rust.

By analogy with the other inscriptions, the key to the sentence, beginning with the word Wilhelm, and no doubt referring to an ironmaster lies in the last syllable, where the right leg of the final N, is unquestionably crossed for a T, making the word spell BORTSCHENT. But since the latter cannot, by any phonetic juggling, be considered to represent the name of any known ironmaster, at any of the furnaces that could have cast the plate at its date in 1760, we must give it up.

To regard the left leg of the N as an I might seem to solve the difficulty by transforming the final syllable into the German word SCHEINT, meaning either (1) appears, or (2) shines, and leaving the first syllable BORT to stand for BIRD, therefore explaining the sentence in full, as William Bird Appears, or William Bird Shines.

But the first solution involves more difficulty, since we cannot suppose that William Bird "appeared" in 1760 if he founded Berkshire Furnace, not then, but, according to Fig. 45, in 1756. And the second hardly less, since, though we may infer that stoves were polished so as to shine with lampblack and beeswax here as in Germany, William Bird would only occasionally, thus by metaphor, shine on a stove.



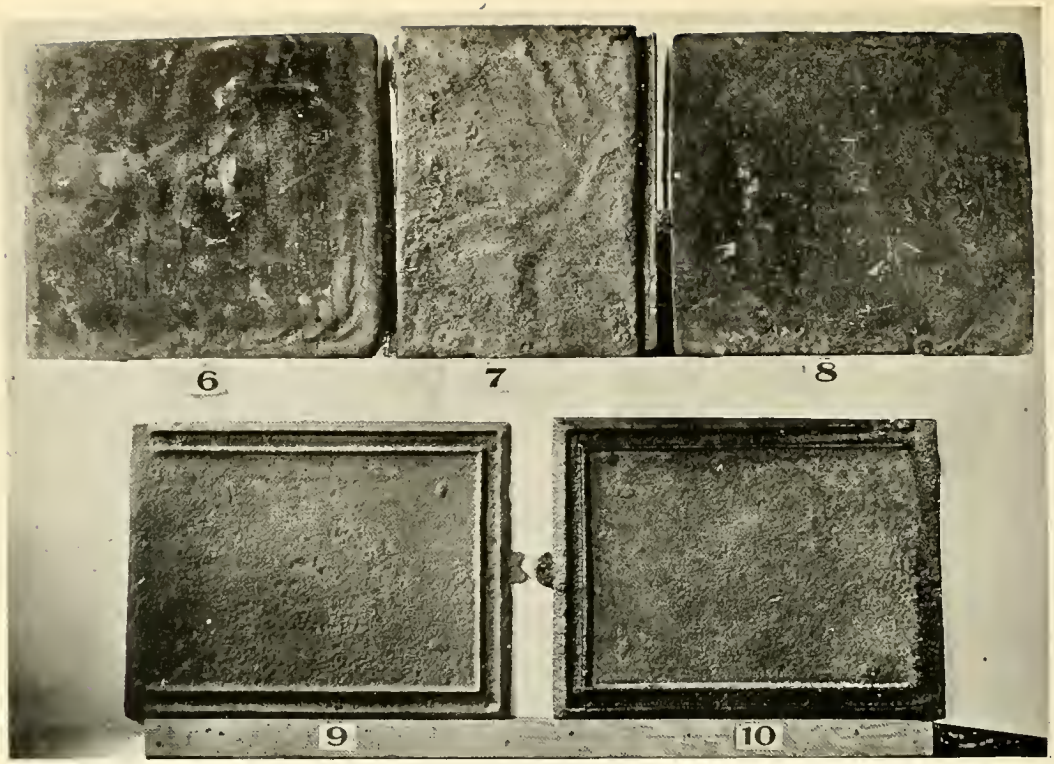
36.
The Five Plates of a Jamb Stove.

Outside view of the plates of the Bortschent stove shown in Figure 33, Berks County Historical Society.

1. Left plate.
2. Front plate.
3. Right plate.

4 and 5 are interchangeable as the top and bottom plates. Both show the waved surface peculiar to open sand-casting, produced by the hardening of the molten iron in the open air and free of contact with the mould. The perforated lips for the insertion of the vertical bolts, fastening the stove together from top to bottom, appear at the outer margin of these latter plates.

ipe, fed through the wall from outside, and herefore failing to ventilate the room heated, he stove is a representation of the first of American made iron stoves so singular to modern eyes, so long forgotten, so meagerly described by Franklin and others, thus at last imperfectly set together from its five loose plates.[65]



37.

The Five Plates of a Jamb Stove.

Reverse of Figure 36, showing the inside of the plates of the William Bortschent stove, Figure 33, Berks County Historical Society.

6. Left plate, reverse of 1.
7. Front, reverse of 2.
8. Right, reverse of 3.
9 and 10, interchangeable as top and bottom, reverse of 4 and 5. Both the latter show the continuous channels for the vertical insert on of 6, 7 and 8, also the impressions of the heads of the bolts used in constructing the wooden mould, and unerased from the sand in casting, also the perforated lips for bolting the stove together. The waved surface peculiar to open sand-casting is seen upon 6, 7 and 8.

The gutter-shaped rims shown in front and reverse (Figures 36 and 37, Nos. 2 and 7), are cast solid on the vertical margins of the front plate, and a vertical bolt, unknown in the European stoves, not shown in the picture, originally passing through perforated lips in the top and bottom plates (Figures 36 and 37, Nos. 4, 5, 9 and 10), held the stove tightly together.

Only three of its five plates, the front, with grooved margins to the right and left of the pattern (Figure 36, No. 2), the right, with broad margin to the right (Figure 36, No. 3), and the left, with broad margin to the left of its pattern (Figure 36, No. 1), are decorated. The top and bottom plates, bordered with three rimmed channels on front and sides (Figure 37, Nos. 9 and 10), for the insertion of the three side plates, and each with a perforated marginal lip (Figures 36 and 37, Nos. 4 and 5, 9 and 10), for the long exterior bolt, not here shown, are duplicates and interchangeable.

The whole series of five loose plates thus illustrated, on the outside (Figure 36), and on the inside (Figure 37), enables us to recognize at sight, the loose decorated plates hereafter shown, as either front, right or left plates. They illustrate the fact that with a few exceptions (as noted under Figures 108 and 139) the chief pattern on the right plate, was duplicated on the left while another pattern appeared on the front, thus presenting two de-

signs cast from two moulds, rather than three for each stove, and showing that where the same design appears on two or more plates of a kind, right or left, two or more stoves of that pattern must have existed.[11]

It follows from this, that since in all stoves of a given size, the top plates duplicate the bottoms, and that as a general rule with few exceptions the rights (by alternating the broad margins), the lefts, several of the stoves here represented by front and side plates, and adjustable with any equal sized top or bottom plate can be restored by recasting.

Unfortunately, however, these instances are few, since when replicas have been found for a given stove, often proving the existence of many of its kind, they have rarely shown both its patterns, generally appearing as all sides, without fronts, or more rarely, as all fronts without sides.

EARLIEST AMERICAN STOVE PATTERNS.

No front plate has yet been found for the singular pattern shown in Figure 38, which appeared first, broken in half, at the forge of a blacksmith in Hilltown, Pennsylvania, next in the cellar of the Historical Society of Pennsylvania, again in a house in Philadelphia, and lastly at a dealer's in Pottstown, thus four times in replica, but always not only as a side plate, but as a left side plate thus proving the existence of four stoves of its kind.

The pattern without perspective or background, and with its figures in the dress of the middle 18th century, shows a husband and wife fighting desperately, and infuriated by winged flying demons, who blow bellows into their ears. The man beats her with the tongs, as the woman with uplifted pot hook, pulls his hair. Pigs fight to the right and a dog and cat are set in decorative balance to the left, while the distressed children, as if standing in the air, a long coated boy with clasped hands, and a girl with uplifted arms, protest in vain.

38.

The Family Quarrel.

Size, H. 29 by W. 24 inches. Left plate. Bucks County Historical Society.

A left fragment of this remarkable plate, found by the writer at New Galena, Bucks County, Pa., at the blacksmith's forge of William B. Funk, who, having found the complete plate in the hearth of an old inn at Hilltown nearby, had broken it in half to fit the forge pavement, was illustrated and described in Decorated Stove Plates, Figure 10. After being found again as a complete left plate in 1897, in the cellar of the Pennsylvania

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Below the striving figures, so singular yet so familiar, whose lesson must have forced itself on many a man and woman who saw the pattern when the old stove warmed the house, runs the inscription, from Matthew 5-9, SELIG. SIND. DIE. FRIDFERTIGE. "Blessed are the peacemakers," while below like a sermon in rhyme, with its everlasting cure for the evil of the picture, is placed the legend:

DURCH. STILLE. DURCH. GEDULD.
DURCH. LIBEN. LIDEN. HOFFEN.
UND. NICHT. DURCH. ZANCKEN.
IST. DER. FEIND. AUFS. HAUPT. GETROFFEN.

By silence, by patience,
By loving, suffering, hoping,
And not by quarrelling
Is the devil struck on the head.

Historical Society, it again appeared as a left replica (here illustrated) in the hands of a gentleman in Philadelphia, who sold it to the writer in 1905. Another left replica, found near Pottstown, Pa., and sold by Boone, the antique furniture dealer, to the writer in 1908, is now at the Bucks County Historical Society.

Husband and wife, both inspired by bellows-blowing demons, attack each other, he armed with tongs and she with an upraised pot-hook, while with one hand she pulls his hair. The distressed children, a boy and a girl, stand near two fighting pigs to the right, and a fighting dog and cat to the left. The full legend from the Sermon on the Mount runs above the picture, SELIG. SIND. DE. FREIDFERTIGE. "Blessed are the peacemakers," Matthew 5-9, in Luther's Bible, while below in four rhymed lines, it continues:

DURCH. STILLE. DURCH. GEDULT.
DURCH. LIBEN. LIDN. HOFFEN. UND.
NICHT. DURCH. ZANCKEN. WRD. DER.
FEIND. AUFS. HAUPT. GETROFEN.

"By stillness, by patience, by loving, suffering, hoping, and not by quarreling, is the Devil struck on the head."

"Oh, do not rage and quarrel.
But be patient and be still.
To suffer, love and hope,
Is to thwart the Devil's will."

As explained in the text, the plate made probaly in the early 18th century and at one of the first furnaces established in Pennsylvania, has been cast from a wooden pattern, possibly carved in Germany, and imperfectly fitted together in several loose pieces set at various angles.

Oh do not rage and quarrel;
But be patient and be still.
To suffer, love and hope,
Is to thwart the devil's will.

The plate has no date, but the style of the inscription, with its carefully carved rectangular flattened letters, its U's with rounded bases, its treatment of the word UND and omission of vowels in the words LIBEN. LIDEN. NCHT., etc., so closely resembles that of the Fortune plate (Figure 31) as to suggest the same hand. Besides this a remarkable series of welts, plainly seen surrounding the figures, show that the mould carver has in this case sawed his figures out of an older wooden mould. If he did this in America, we may wonder why he should have so mutilated a mould then freshly made or imported. If in Germany we may imagine the loose pieces brought over seas as stock in trade in an easily carried bundle, to be finally inserted in a new board face, imperfectly orificed to fit them.

But whether imported in pieces or not, whether made in America or Germany, we may suppose that the mould was used to cast the plate in question probably between 1726 and 1735, and that the specimen like Figure 31, represents one of the first stoves made in Pennsylvania by imported German workmen.

For a period of fifteen years after the date of the Fortune Plate Figure 31, no dated plate appears, though we know from the Potts Ledgers above referred to, that numerous five plate stoves were cast at Colebrookdale, Mount Pleasant, and Redding or Christine in the interval, and may infer that others were produced at Durham above mentioned, on the Delaware River at the mouth of Durham Creek in northern Bucks County, if not at Keiths furnace and Abington in Delaware or the doubtful Kurtz's in Pennsylvania, which were in blast in 1728. But the early Ledgers of Durham are lost, and the evidence of the plates themselves, generally undated and unmarked, throws no certain light on the question until two interesting patterns appear, both dated 1741 and both probably cast at Durham.

Buried in the mud as a stepping stone at the old property known as Painswick Hall, near New Britain, Pennsylvania, as described and illustrated in Decorated Stove Plates (Figure 5), found again in replica in one of the cellars of Durham Furnace, again at a dealer's in Pottstown, Pennsylvania, and finally in the ruins of a springhouse at Camp Hill, Pennsylvania, one of these patterns shown in Figures 40 and 41 represents Adam and Eve in the Garden. By anachronism the woman clothed at the waist like the man, yet before the fall, receives the fatal apple from the mouth of a serpent, coiled upon one of the over hanging trees well fruited with apples. Some of the branches of the orchard seem to be pruned, and near a leafless tree and branchless trunk to the left, appear four animals, a horse, an ox, and probably two sheep. Below the neatly carved pattern and surmounting the lower panel with its richly scrolled medallion dated 1741, runs the inscription peculiarly produced in both large

40.

Adam and Eve.

Right plate. Size, H. 26 by W. 26. Bucks County Historical Society.

Eve receives the apple from the mouth of a serpent coiled upon the trunk of a fruited apple tree, while Adam, holding another apple in his hand, stands farther to the right, under another tree. A smaller tree intervenes between the nearly naked figures, who, contrary to the Biblical narrative, wear waist-cloths before the Fall. To the left, a broken and branchless tree-trunk rises between a horse and cow, standing below two other animals and a leafless tree. Another tree fills the left space.

The inscription DIE. SCHLANG. ADAM. UND. EFA. BETRU, "The snake betrayed Adam and Eve", fills the central cartouche, while the date 1741, with its scroll work and medallion patterned like that upon the Cain and Abel plate, Figure 42, fills the lower panel.

The pattern, Figure 40, shows a protruding welt, as of a warp-crack filled in, retouched and swollen out of level, vertically crossing the upper panel, which does not appear on Figure 41, a much rusted replica, now at the Bucks County Historical Society, found as a pavement relic at Mr. Martin's farm, at New Britain, Pa., in 1897, and described in Decorated Stove Plates under Figure 5.

Because Figure 40 (the first to appear) was found before 1898 by Mr. B. F. Fackenthal, Jr., among the furnace heirlooms at Durham Furnace, it seems probable that the plate was cast at Durham. If so, the Cain and Abel plate, Figure 42, of equal size, with the same peculiar narrowness of the broad margin, with identical date, date medallion and scroll work, and particularly with the same mingling of small letters and capitals in the inscription, must have been designed by the same mould maker, who has not elsewhere shown his hand in the whole series of plates here described, and who probably carved both moulds for the same (Durham) Furnace.

An inscribed date-stone in possession of Mr. B. F. Fackenthal, of Riegelsville, Pa., proves that the old charcoal furnace of Durham, on Durham Creek, Northern Bucks County, Pa., founded by James Logan, Anthony Morris, William Allen, James Hamilton, Joseph Turner, and a company of ten others, was built in 1727. After a life of sixty-four years, it finally went out of blast in 1791, was pulled down in 1819, and afterwards rebuilt a mile away from the original site.

The now deserted and decaying modern works, situated by the river, close to the mouth of Durham Creek, and near the remarkable Durham Cave, long since blasted down for lime stone flux, bears no resemblance to the backwoods furnace, here set up in the primeval forest, before the land was finally (1737) bought from the Indians, and which must have been, according to James Logan (Swank, 170), one of the four Pennsylvanian furnaces in blast in 1728.

The ancient stone stack, thirty-five to forty feet square and thirty feet high, with its wheel race and water bellows, has long disappeared, and nothing but a heap of cinders remains to mark the site of the original furnace, which supplied three forges on Durham Creek and others nearby (account of Durham Township by H. C. Bell and B. F. Fackenthal, Jr., Swank, 169), sent its pig iron down the Delaware in the celebrated Durham boats, cast numerous stoves about 1741 (Swank, 169), shot and shells for Washington's army in the Revolution, and employed, as did the other furnaces, negro slaves in 1780, during the days of inconsistent "freedom."

41.

Its early ledgers and records are all lost, and the sale of four stove moulds from Durham to the Hibernia Iron Works in New Jersey in 1778 (Fackenthal MSS.) refers no doubt to ten-plate stove moulds. According to Swank, Anthony Morris and William Logan owned the furnace in 1759, General Daniel Morgan before 1743, George Taylor, the Signer, before 1774, and Richard Backhouse still later, in the days after 1770, of ten-plate stoves. It was demolished in 1819 to built a grist-mill. Two anthracite coal furnaces were built in 1848 to 51, and these were pulled down in 1874 to build the present furnace, which was abandoned by Cooper and Hewitt in 1895.

42.

Cain and Abel.

Left plate. Size, H. 26 by W. 26. Bucks County Historical Society. No. 1199.

The figures stand in low relief under a canopy supported by two Roman columns with double vault, under curtain loops and pendant flower. Floral scrolls flank the pattern to the right and left. Furious Cain, uplifting in both bared arms a heavy club, advances upon his unarmed brother, who, standing beside one of the trees of Eden, makes a protesting gesture.

The costume, the apparent bareness of the legs, the roll of the long stocking below the knee, though probably intended to reproduce the garments of ancient Rome, suggests the peculiar dress of the Scottish Highlanders. The date, 1741, with its medallion and scroll work, filling the lower panel, is a close copy, though not a recast, of the lower panel of the Adam and Eve plate, Figure 40.

The inscription, like that of Figure 40, composed of a mixture of capital and small letters:

CAIN. SEINEN. BRUTER. AWEL. TOT. SCHLUG.

"Cain killed his brother Abel," fills the central cartouche.

Discovered by Mr. Alexander Ralph at Camp Hill, Montgomery County, Pa., in pulling down a tenant house.

Two left replicas are in the collection of Col. H. D. Paxson, at Holicong, Pa.

This plate and Figure 40, for the reasons given under the latter, were probably both cast at Durham Furnace in Northern Bucks County, Pa., and that the design was produced by stamping in caster's sand, a mould like the Swedish mould, Figure 10, orginally carved on a framework of boards, is here plainly shown.

A heavy welt, as of a board in the wooden pattern, warped above the level, and two ridges edging a depression as of another board warped below the level, where the caster has not taken the trouble to erase them in the sand, leave their mark upon the iron. They cross not only the background, but uplift and lower the carving itself, in the cartouche, the inscription across the word TOT, the date medallion, scroll-work, lower tree-trunk, right curtain-loop, and floral pendant.

and small letters, DIE. SCHLANG. ADAM. UND. EFA. BETRUG. "The snake betrayed Adam and Eve."

The other pattern, Figure 42, represents the fratricide, Cain, who with uplifted club rushes upon his brother, as if in a spacious vaulted hall supported on fluted columns, the details of which are more carefully worked out than in any of the other American plates. Decorative curtains are looped across the vaults overhead, and to the right and left foliate scrolls fill up the pattern. The missing central column is replaced by a corbel, and a pendant leaf.

More curious than the heavy welts, as of warp cracks in the wooden moulds, or the outlines of inserted wooden strips retouched in Figure 40, erased in Figure 41, and again appearing prominently in Figure 42 which vertically cross both plates, is the striking similarity of both patterns. Notwithstanding the absence of the decorative framework above noted in Figures 40 and 41 where the trees, animals and figures of Eden appear as in an open picture, the same date, 1741, appears in an identical filigree in both plates. Besides this, the size of the plates, the peculiar narrowness of their broader margins, and the striking mixture of large and small letters in the inscription, is the same in both instances.

This seems conclusive. If Figure 40 found as an heirloom at Durham Furnace was cast there, we must suppose that Figure 42 was cast there also and designed by the same hand.

ART AND MEANING OF THE STOVE PICTURES.

After 1745, doubts as to the origin of the American plates disappear. Besides Colebrookdale, and the furnaces above noted, Cornwall, 1742, in Lebanon County; Elizabeth, 1750, and Martic, 1751, in Lancaster County; Hereford, 1753, Oley, 1758, and Hopewell, 1759, in Berks County, were in blast in Pennsylvania or founded in time to make five plate stoves, and a number of plates appear that were undoubtedly cast at some of them.

43.
The Molten Calf.

Front plate. Size, H. 26⅝ by W. 19½. In the State Library at Harrisburg, Pa. Bought by Mr. L. F. Kelker along with Figure 74, in 1907, at Kutztown, Pa., where the owner had preserved it with black paint and gilt as a parlor ornament.

Out of all proportion to the pattern, and under a tree with lopped branches on the left, stands the miniature molten calf on a boat-shaped stand, while two much-rusted, robed human figures, Aaron or Joshua, pointing to the image, and Moses, uplifting the tables of the law to break them, fill the foreground. The inscription, from Exodus 32-5, in Luther's Bible:

IM. 2. B. MOSE. C. 32. V. 8.
SIE. HABEN. IHN. EIN. GEGOS.
SEN. KALB. GEMACHT.

"In 2 book Moses, chapter 32, verse 8, they had made him a molten calf," and peculiar in having the cited text on the top instead of the bottom line, fills the lower panel without intervening bands.

As in the case of the plow, Figure 52; Dance of Death, Figure 75; Absalom, Figure 77; Adam and Eve, Figure 40, and Wheel of Fortune, Figure 31, the familiar canopies, inherited from Gothic times, and characteristic of so many of the plates, have been abandoned, while, as in the patterns above mentioned, scrolls, trees or balanced inscriptions fill the background. Here the designer, much in the style of the Prussian Grenadiers, Figure 67, and The Flight into Egypt, Figure 79, upholsters the sky in the rudest manner as with a quilted curtain, throwing in the date, 1742, on the left.

The general treatment of the robed figures, the form of the M's and S's in the inscription, the tree with lopped branches, and the waving foot-hold, suggest the workmanship of the Flight into Egypt, Figure 79. A replica is now in the collection of Colonel H. D. Paxson, of Holicong, Pa. Another in that of the Hon. S. W. Pennypacker, at Schwenksville, Pa., January, 1914.

44.
The Man on Horseback.

Front plate of Jamb Stove. Size, W. 21 by H. 23½. Mr. S. P. Patterson, at Robesonia Furnace, Berks County, Pa.

The very curious, puzzling and much-rusted plate found with a replica of the Tenth Commandment plate, Figure 33, and several others since lost, among the rubbish at Robesonia Furnace, probably rescued from the ruins of the older Berkshire Furnace nearby, and brought to Robesonia with scrap iron for remelting; shows, under a vaulted canopy filled in with a large rococo scroll, a man with a broad-brimmed hat, and probably holding a staff or sword on horseback. Below are cast the initials W. B., and in a small medallion the date 1756.

If pattern carvers ever ventured to cast their initials on stove plates, no evidence has yet proved it. Initials thus far identified have stood for the names of furnaces or iron masters, three of whom, William Bird, of Berkshire Furnace; William Benet, of Martick, and William Branson, of Redding, might be suggested to account for the W. B. on this plate, but if we choose any of the three, it would not at first glance be the first or second, since Berkshire or Roxborough Furnace on Spring Creek, lower Heidelberg Township, Berks County, Penna., was not founded by William Bird, and William Benet did not (according to Mr. B. F. Owen) become shareholder at Martic on Pequea Creek, near the present Colemansville, Lancaster County, Penna., until 1760, four years after the plate was cast.

But William Branson, founder and original share owner of Christine or Redding Furnace, on French Creek, in Northern Chester County, who was probably iron master there in association with his son-in-law, Samuel Flower, in 1756, might have cast his initials on the plate in that year, at Redding Furnace, although Flower's name and initials, S. F., appear on the Redding plate, Figure 79, in 1754, and on Figures 82 and 83 in 1756.

On the other hand, the finding of the plate, together with Figure 33, marked with the name of William Bort (Bird), at Robesonia Furnace, at or near the site of Berkshire Furnace,

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But though several of the patterns, like the uncouth Molten Calf dated 1742, the Temptation of Joseph, 1749, or the emblematic Pump, 1748, and the Plow, 1747, are dated, and though a few like the David and Goliath and the two Samson plates or Elijah and the Ravens (of Kingston, Figure 59), through similarity of detail, can be grouped

and possibly as an heirloom of the latter, thus far associates it not only with Berkshire, but with William Bird.

The New Pine Forge Ledgers at the Pennsylvania Historical Society, quoted by Mrs. Longacre (Forges and Furnaces in Pennsylvania. Colonial Dames, Philadelphia, 1914, page 152) show that Swank and Montgomery are wrong in asserting that Berkshire was founded in 1760, and that it was in existence in 1756. This solves the difficulty, unless impressed by the broad-brimmed hat of the rider, we go so far as to suppose, with Dr. J. B. Stoudt, that W. B. might stand for a German wood-carver's phonetic rendering of the initials W. P. for William Penn.

Swank says, page 175, that William Bird, founder of Birdsboro, Union Township, Berks County, Penna., and father of Mark Bird, was an Englishman, who was living in Amity Township, Berks County, in 1728, and that he or his son, Mark Bird, built Hopewell Furnace in 1759 or 65. Montgomery says, page 39, that he built Hay Creek Forge in 1756, owned 3,000 acres, founded Birdsboro in 1750, and built a house standing at Birdsboro in 1750. He built Roxborough or Berkshire Furnace about 1755 in Heidelberg Township, Berks County, Penna.; died in 1761, aged 55, and is buried at Douglasville, Berks County (Forges and Furnaces in Pennsylvania, Colonial Dames, page 76).

45.

The Man on Horseback.

Right plate of Jamb Stove. Size, W. 20½ by H. 23½. Mr. H. K. Deisher, Kutztown, Pa., November 21st, 1913.

This plate, though lacking the initials W. B., must be supposed to be the right companion to the front plate, Figure 44.

But the pattern is not a replica of the latter, though it appears so. The position and carving of the head, hat, neck, whip and bridle of the horseman, the tilted oval foothold, and the centering of the scrolled bracket over the date medallion, vary in the two plates, showing not that loose stamps were used, as might at first sight appear, but that two solid carved wooden moulds were employed, where we might suppose that one would have sufficed. One of these which must have been furnished with heavy marginal grooves for the side rims served for the front, and one for the two side plates. Moreover, though the figure 5 has been rusted away on Figure 44, we may reasonably guess that the same date, 1756, has been repeated on all three plates, though the initials W. B., explained under Figure 44, appear only on the first.

A replica also in Mr. Deisher's possession was found, but without the front plate, in the same house. Strange to say, instead of a left, the latter is also a right, and if we suppose it to have been used as part of the same stove—a misfit, bought by mistake at the furnace and never replaced, we must imagine that the owner set it on the left side of his stove, upside down or inside out.

46.

Temptation of Joseph.

Size, H. 25 by W. 26½. B. H. S. No. 788. Described in Decorated Stove Plates, Figure 3.

Potiphar's wife, springing from a canopied and curtained bed, seizes with both hands the cloak of the escaping Joseph, who holds the garment in his left hand, and uplifts his right in protest. A round column, behind which a tasseled curtain hangs from the upper corner of the design, fills up the pattern to the right. Under the picture, which lacks arches and canopies, the whole lower panel is filled with the rudely carved inscription which cites the wrong chapter in the Bible.

DAS. WEIB. DES. SUCHT.
JOSEPH. ZV. ENTZVNDE.
IM. 1. B. MOSE. 13C. 1749.

"The woman who seeks to corrupt Joseph. In 1st Book Moses, 13 chapter" (which should read 39th chapter), 1749.

Two large knobs, one back of the woman's head, the other between the tassel and column marking the impressions of bolts or nails, used to keep the wooden mould from warping, appear on Figure 46, found by the writer in Emanuel Peterson's junk-heap, at Doylestown, in 1889, and previously used as a door-step by Mr. Henry P. Sands, of Doylestown. A replica was found by the writer in 1889 at Bethlehem, in use as a chimney top, in the possession of Mr. Robert Rau. The much-rusted and broken replica (1), Figure 47, was exhibited during Founder's Week, in Philadelphia, by Mrs. Hallam, a furniture dealer in Bristol, Pa. Then Mr. B. F. Owen, of Reading, found (2) a right replica, B. H. S., used as a fireback in the house of William Adam, now the property of the Mount Penn Water Company, near Reading, also (3) a left replica, B. H. S., and

(4) a right replica, B. H. S., as a hearth pavement in an old house, once a Moravian School, near Reading. The lower half of (5) a left replica was at the Historical Society of Pennsylvania, in 1912. A right and left replica (6) and (7) were in possession of the Hon. S. W. Pennypacker, at Schwenksville, Pa., in 1913; a left replica (8) (broken) was at Mrs. Cookerow's

47.

antique store, in Pottstown, August 30th, 1910, and another left replica (9) was, in 1912, in possession of Mr. J. H. Lynn, at Langhorne, Bucks County, Pa., from the Keim house, near Oley, Berks County, Pa.

Thus ten examples of this interesting plate had come to light in fifteen years of search, six of which have served severally as a doorstep, a chimney-cover, a fire-back, a hearth pavement, and two dealers' relics, yet the front plate has never been found, and none of the castings have shown a change of the date, 1749. Both N's in the inscription are upside down, the Z's have the German cross bar on the diagonal outline, and the false Scriptural citation is never corrected.

48.

The Miracle of Cana.

Front plate. Size, H. 24 by W. 21. B. H. S. No. 1195.

Set in the mud for a gutter crossing when found at the farm of Mr. G. Martin, of New Britain, Pa., the interesting plate was rescued at the last moment, as a part of one of the original stoves used for warming the tannery of the Shewell family at "Painswick Hall." Time and rust have not effaced the outlines of human figures, of the well and of water vessels, decoratively framed between two columns, and an acanthus leaf depending from a superincumbent arch now rusted away. To the left a figure works with both arms at the well pulley, behind whom, on a block, rests a large tankard. Between this and two similar vessels set upon the ground to the right, as containing the water changed to wine by miracle, stands the figure of Christ working the wonder, while below and across the entire plate runs the motto, JESUS MACHT AUS WASSER WEIN ("Jesus makes wine from water"). From beneath this, in a scrolled oval, blurred by rust, are the words, IOHAN AM 2 CAP. (John in the second chapter.) The style of scrolls, columns and pendant acanthus seem to connect the undated plate with Figures 42 and 53.

Dr. Herman Wedding, in Eiserne Ofenplatten, Harzverein Festschrift, 1893, plate 5, illustrates two stove plates showing this subject, and Kassel says, in Ofenplatten im Elsass, page 62, that no other theme so frequently appears upon stove plates in Alsace; that he himself has seen forty-one examples of wine-miracle plates, and that a book might be written on Cana stoves alone. They were popular in Germany because children and Bible students easily understood the picture, and because the thought of wedding feasts was pleasant to the German farmers.

49.

A variety of rhymed mottoes added to their interest, for example, as Kassel shows, in illustrating the wooden mould for his Fig. 110:

DAS. ERSTE. ZEICHEN. CHRISTUS. THAT ALS. ER. WASSER. IN. DEN. WEIN. GEWANDELT. HAT.

and upon his Fig. 113, dated 1810:

DAS. BRUNNEN. WASSER. WIRD. IN. GUTEN WEIN. VERKEHRT.

DER. EDLE. REBENSAFT. IM. WASSER. KRUG. SICH. MEHRT.

But no such popularity seems to have followed the subject to America, where wine had ceased to be a common beverage, where marriage feasts were less gay among the pious settlers, and where only this one example of the subject, and the patterns on the front plates, Figures 28 and 50, have come to the writer's notice in fifteen years' search.

An example of the subject at Rothenburg-on-the-Tauber, seen by the writer in 1902, in the possession of a priest, who

had collected it for Mr. F. Moller, Lutherstrasse 33, of Berlin, was inscribed with the words in the arches over the double canopy, CHRISTUS. FROMME. EHE. LEVT. TROST. UF. WEILMUNSTERER. EISENHUTTEN. 1697. JOHANN AM. 2. CAP. Christ, the Trust of pious married people, Weilmunster Furnace, 1697, John in 2 Chapter.

Kassel's Figure 107, dated 1713, showing a general similarity, has a very similar figure on the left close to the well curb, holding with both hands the pulley rope of a well.

The American replica, Figure 49, now stands in the office fireplace, at Washington's headquarters at Valley Forge, and was photographed by the writer on June 30th, 1910.

Replica, July, 1913—Mr. B. F. Owen, Reading, Pa.

50.

Cana Plate of 1742.

Front plate. Size, H. 27 by W. 22½. Col. H. D. Paxson, Holicong, Pa.

Four uncouth figures, the bridegroom clasping his bride, and the master and mistress, are seated at the wedding table, well laden with food and dishes, and apparently raised on a circular patform or dais. To the left, where a standing figure points to three wine jars set upon the floor, Christ enters to perform the miracle.

The inscription in the central cartouche reads: UND. ES. WAR. EIN. HOCHZEIT. ZU. CANA. "And there was a marriage at Cana"—and in the medallion below, JOHANN. A. 2. 1742. "John in 2, 1742."

Though, according to Kassel, no subject except that of the Oil Miracle of Elisha, has been so popular in Germany as that of the Cana wedding, only this rude version of it, the hardly less uncouth, Figure 49 and Figure 28, all on front plates, and therefore representing three dissimilar stoves, have appeared here. The composition of this pattern is unlike that of Figure 49, but several details in the framework indicate that it and Figures 55, 59 and 81 were carved by the same hand, and while all the other Oil Miracle plates thus far found appear to have been imported from Germany, this plate has undoubtedly been carved and cast in Pennsylvania.

51.

W. B. of 1748.

Right plate. Size, H. 24 by W. 24. In possession, 1913, of Mrs. A. J. Steinman, at Lancaster, Pa. Replica at the Berks County Historical Society.

This singular plate, found in the iron-heap at Mr. Steinman's Foundry at Lancaster by the writer in 1910, and again in replica as a right plate by Mr. B. F. Owen, at Adamstown, Lancaster County, Pa., may be classed as an intermediate pattern between the floral and the Biblical pictured designs.

together as products of one hand, none of these pictorial patterns advertise the name of their furnace, and most of them are unmarked with the name or initials of casters or ironmasters.

Where the chief object of the stove maker appears to have been to express religious ideas by means of pictures and human figures, it seems strange to find Figure 64 decorated with meaningless rococo medallions, scrolls, filigree and a cherub's head with the date 1745, and Figure 61, dated 1749, adorned with a clumsy flower pot and meaningless scrolls. But both these patterns are front plates and lack the explanation of their side plates, which may have been more significant.[117] On the other hand, one armorial plate (Figure 65), the only heraldic plate in the collection, with a circular shield, a crown crest and four quarterings, one of which appears to be the arms of Navarre, is a side plate without its front.

Two patterns, the Pump and Plow, are emblematic. Several others without religious significance, such as The Man on Horseback, The Marriage, The Wedding Dance, The Prussian Grenadier, The Swarm of Bees, and the grotesque figure riding a goat, instruct, puzzle or amuse the observer.

Above the lower medallion dated 1748, with wheat-sheaf and tulip, and flanked with curved palmlike branches rather than tulips, the motto: GOTES. BRYNLEIN. HAT. WASER. DIE. FYLE., from Luther's version of Psalms 65: 10. "God's well has water in plenty," fills the central cartouche.

The palm-like waving twigs and tulips suggest the similar ornaments on the John Pott plates, Figures 89 and 90, while the eight-petaled flower in its circlet, and the pump, recall a similar circlet and plow on the Plow Plate, Figure 52.

A double canopy, supported on fluted columns with cross-hung curtain loops, enclosing wheat sheaves, forms an upper panel consisting of scroll-shaped trees, an eight-petaled star-shaped flower in a circlet, a pump of characteristic American pattern, lozenges, tulips and the initials W. B. (possibly William Branson, ironmaster) and K. T. F.—possibly standing for Christeen or Christien Furnace, the predecessor of Redding Furnace, and so denoted from a phonetic representation of the English word Christeen by a German workman.

That the so-called Redding Furnace, named, according to Gilbert Cope, after Reading in England, near Branson's birthplace, owned and built by William Branson and Samuel Nutt's heirs, owners of Coventry Forge, and erected, in the first place, to supply the latter with pig iron, was often called Redding (in a road petition in 1736, Pennsylvania Colonial Records, Vol 4, pages 152, 247, 269, 270, by Acrelius, in 1758, in an agreement of partnership in 1736, cited by James, and on Skull's Map in 1756), there can be no doubt, while that an earlier furnace whatever its name, existed at or near the same spot, was suspected by Swank and Mrs. James from the inventory of Samuel Nutt's will referring to an "old furnace" and a "new furnace" in 1737. Still more certainly the Potts' manuscript (Coventry Forge) ledgers, established the fact, in noting the sale of stoves, necessarily made at a furnace, not a forge, between 1728 and 1738, but at last proved it positively (on information received by the writer in October, 1913, from Governor S. W. Pennypacker) by referring to a bell, a broom, candles and wood for "the Furnace" in 1728, and twice to Christien or Christeen Furnace, by name, in April, 1729.

Until the neighboring rival Warwick Furnace was built in 1728, Christine and its successor Redding, were the only furnaces in the French Creek iron region. Both were owned by William Branson, no doubt, the W. B. of the stove plate, and both were associated from the first with Coventry Forge. Whether this older Christien Furnace was built by Branson about 1720, when he built Coventry Forge, or earlier, thus rivaling in age or antedating Colebrookdale itself, and whether it for a time survived the building of Redding are as yet unanswered questions, Swank and Mrs. James, ignorant of its name, suppose that the older Furnace was abandoned in 1737 when Redding was built, but show no evidence of the fact.

Our explanation supposes, either that the later furnace of 1737 officially called Redding, might unofficially have been called Christine in 1748, when the stove plate was cast and when William Branson was still ironmaster, or that the older furnace might have survived until 1748 and might have been still called Christien at that time.

The old Anglo-American iron master, William Branson (according to Futhey, and Cope's History of Chester County), son of Nathaniel Branson, of Soning, Berkshire, England, came to Pennsylvania in the Golden Lion Ship, in 1708, lived in Philadelphia as shop-keeper and merchant, 1709 to 1726, bought land on French Creek, Chester County, in 1733, and probably together with Samuel Nutt, built Christine Furnace about 1720-26. He reconstructed it or built a new one in 1736, and was in possession of Redding in 1742 (Swank, 173) between 1750 and 1756 (as Acrelius says, quoted by Swank, 174). He built two so-called "Windsor Forges" on Conestoga Creek, near Churchtown, Lancaster County, also supplied by Redding Furnace (Swank, Iron and Coal, page 21); sold the latter in 1743 to Lynford Lardner, Samuel Flower and Richard Hockley, was three times married, and died in 1760 (Swank, Iron in All Ages, 174). He left no sons, and four daughters, to three of whom, with their husbands, Lardner, Flower and Hockley, above-named, his sons-in-law, he gave quarter shares of Redding (History of Chester County, page 346). Samuel Flower had married Branson's daughter Rebecca in 1744, and as the initials S. F. and the name Samuel Flower appear on several dated stove-plates here illustrated, Flower seems to have managed Redding furnace for his father-in-law in 1756, and after the latter's death in 1760.

52.
The Plow.

Left plate. Size, W. 28½ x H. 26¾ inches. At the Museum of the Young Men's Missionary Society at Bethlehem, Pa.

But the majority, like all the plates thus far described, are pictorial, and illustrate scenes in the Bible history, or convey moral lessons by means of pictures, generally placed in decorative canopies, and explained by legends.

The latter, invariably set beneath the picture, are often much abbreviated and difficult to decipher, as where we have on Figure 60, MAN. HAT. DICH. IN. EINER. WAGE. GFWOGEN. UND. ZU. LEICHT. GEFUNDEN. abbreviated into MAN. HAT. DICH. IN. EINER. WAGE. G. W. U. Z. L. F. Some are direct quotations, some paraphrases, as in the Raven plate, and one upon the Joseph plate, is a misquotation. In many, the spelling varies or is phonetic or the lettering is careless or illiterate, as in the David and Jonathan plate, Figure 74, where the N's are all upside down; and sometimes gaps in words, owing to letters broken from the moulds, as in the Dance of Death plate, Figures 75-76, remain uncorrected.

A cactus-like tree, with fluted stems, two medallions, three flowering stalks, the initials TM set under a lozenge, a basket-shaped design, with a plow, and the date 1747, together with a hanging, quilted curtain in the upper right-hand corner, complete the features of this most irregular and childlike of any of the stove patterns yet seen.

The legend filling the entire lower panel reads:

JESUS. ABER. SPRACH. ZU. IHM. WER.
SEINE. HAND. AN. DEN. PFLUG. LEGD. UND.
SEHT. ZURUCK. DER. IST. NICHT. GE.
SCHICKT. ZUM. REICH. GOTES. LC. A. 9.

"And Jesus said unto him: No man having put his hand to the plow, and looking back, is fit for the kingdom of God. Luke in 9th."

If we ascribe the initials TM to Thomas Maybury, we may suppose that the plate was carved for and cast at Hereford Furnace, on the North Branch of Perkiomen Creek, in Hereford Township, Berks County, Pa., where, according to a map of the township of the mid-18th century, and Old Charcoal Furnaces in Eastern Berks County, by Winslow Fegley, Thomas Maybury was ironmaster in 1753. The "ten-plate stove," Figure 180, marked Hereford Furnace, and dated twenty years later in 1767, also shows Maybury's name.

"The great Goliath hath David overthrown. First book Samuel, 17th chapter."

Two broad welts, one of which crosses the inscription, as of boards set diagonally in the wooden mould, and warped out of level, show plainly in the design. Found by Mr. H. M. Ingersoll at the destruction of an old house at Springhouse, Montgomery County, Pa., in 1897.

Several years passed before a replica was found, used as a fireback in a modern fireplace, at 1322 Locust Street, Philadelphia, in a house built by the late Dr. Caspar Wister. The latter had presumably brought it there, together with the beautiful Oil Miracle plate, Figure 22, also used as a fireback in the hall fireplace of the same house.

Replica (1) with rims sawed off, Mr. Robert Hays, Roxboro, Montgomery County, Pa., Aug. 30, 1910. (2) Left replica, Col. H. D. Paxson, Holicong, Pa., Aug., 1910. (3) Replica ditto, September 12, 1911. (4) Right replica, Mr. J. H. Lynn, Langhorne, Bucks County, Pa., 1912. From an old tavern near North Wales, Montgomery County, Pa. (5) Left replica, Mr. Frederick Eldridge, 40 Harvey Street, Germantown, Pa. Information Mr. Mantle Fielding, May 8, 1913; taken by Mr. Eldridge, 1880, from ruins of one of the oldest houses in Germantown, then destroyed.

53.
David and Goliath.

Left plate. Size H. 21 x W. 24. Bucks County Historical Society. No. 791.

The double arched canopy, without columns, with underhung looped curtains and large tassel-like pendant flower, is flanked with vertical scrolled bands. Within it, David, armed with a single barbed spear, twirls his sling at the giant Goliath. Below, the inscription, in three banded lines, reads:

DEN. GROSEN. GOLIATH. HAT.
DAVID. UBER. WENDEN.
DAS. 1. BUCH. SAM. 17. CAP.

54.
Samson and the Lion.

Front plate. Size, W. 17½ x H. 21. Bucks County Historical Society.

Under a double canopy roofed with loops and central pendant, Samson tears open the jaws of the young lion. A long tail twirls in heraldic fashion over the animal's back, and on either side of the figure large leaf-scrolls fill the background.

In the American plates the carving of the figures, the details of the backgrounds, or canopies, and the lettering of the inscriptions, show that the technical skill of the designer, as displayed in the earlier imported patterns, has departed. The designs become rude and primitive, as if the German workman, secluded in the American forest, had become more earnest, childlike and direct than before.

Where Absalom hangs by the hair in a tree as the spearmen rush upon him, or where the infant Isaac kneels in prayer, while an angel arrests his father's sword, or where a dog barks in the house of Jonathan at the stranger

The inscription in four lines, separated by bands, and filling the lower panel, is rusted beyond decipherment:

ALS. SCH. ZU. THIMNATH. WOL.
EIN. LOW. AN. SIMSON.
CHEN. DAS. B. DER. RICHTER. 14.

"As at Timnath a lion upon Samson"——The Book of Judges, 14.

That this is the long lost front plate belonging to the Samson plate, Figure 55, and which had been heard of by the writer in the possession of Dr. R. Lewis Davis, at Hatboro, and by him unwittingly sold to a junk-dealer and lost, as described under Figure 55, there can be little doubt, both because of the identity of the leaf scrolls, used to balance the pattern in both instances, the character of the pendant curtains under the arches, and finally the form of the letters in the rhymed inscription, which rhyme begins in both instances with the word ALS. The plate was found on the premises of Mr. Seth T. Walton, one mile east of Willow Grove, Montgomery County, Pa., where it had doubtless formed a part of an old stove used in a stone addition or shop pertaining to the original house. A large fireplace had been perforated at the back with a hole about eight inches square, to the right of the fire, probably for the insertion of the stove. The plate when found was used as a stepping-stone in the "back yard."

55.
Samson and Delilah.

Right Plate. Size, H. 24¼ x W. 24¾. Bucks County Historical Society.

Two Corbels and a smooth central column, support the double canopy with underhanging horizontal curtains. Beneath the right arch, Samson carries the left wing of a vault door cross-marked with two heavy strap hinges (The Gate of Gaza), while, under the left vault, a much rusted figure (again Samson) reclines on the lap of a woman, seated on a chair, the back of which ends in a knob. A male figure approaches from the left, with extended arms, probably holding scissors, or a razor, as if about to cut the strong man's hair. Heavy foliate scrolls fill the background to the right and left, and the lower panel, divided into three horizontal bands, is filled with the inscription:

ALS. ENDLICH. DELIA. WUST. SIMSONS. KRAFT.
ZU. ZWINGEN. LIES. SIE. AUF. IHREM. SCHOS. IHN.
UM. DESELBE. BRINGEN. DAS. B. RICHTER. 16.

"When at last Delilah learned how to overcome Samson's strength, she brought him to it on her lap." The Book of Judges, 16.

For several years a much-rusted specimen of this plate, now at the Bucks County Historical Society, found by Mr. Webster Grim at the house of Jacob Sassaman, in Nockamixon Township, Bucks County, Pa., in November, 1901, remained unique and undeciphered. Then four replicas suddenly appeared, (1) Right, Figure 55 here illustrated, set in the cemented pavement of R. W. Pathemore's garden at the corner of Sixth and Kelker Streets, Harrisburg, now in the Museum of the Bucks County Historical Society; (2) found in the foundry scrap-heap, in the possession of Mr. A. J. Steinman, at Lancaster; (3 and 4) a right and left replica, as a shield for a drip-spout and a cistern cover, in the possession of Dr. R. Lewis Davis, at Hatboro, Pa., one of which (the right) is now in the Museum of the Bucks County Historical Society; (5) Right, Col. H. D. Paxson, Holicong, Pa.

All these plates were rusted beyond decipherment upon the area of the inscription, except the Lancaster specimen, which

56.

made certain the words UM. DESELBE. and D. RICHTER. on the last line. Their appearance made it possible, after many guesses, polishings and rubbings by sun and gaslight, to decipher the full text on November 5, 1908.

The first plate found was described by the writer in the Proceedings of the Numismatic and Antiquarian Society of Philadelphia for 1899-1901, page 171.

After the writing of the above paragraph, two more replicas have appeared. (6) A left in possession of Mr. William H. Godshall, of Chestnut Hill, Pa., and found by him in demolishing an old house in Germantown in 1913, and (7), Figure 56, a right, the best preserved of all, plainly showing two vertical marks of cracks impressed from a warped mould, verifying the above decipherment of the inscription and remarkable from the fact that the single letter D has been cast in the background of the left canopy, just above the head of the seated woman.

Thus far it has only been upon floral patterns cast after 1750 that single letters have thus appeared set in the background and then not as afterthoughts, but as parts of the original carving. Here we have a letter for the first time thus produced upon a picture plate unquestionably cast not from a letter carved upon the mould itself, but from a loose stamp pressed into the casting sand, and we may well wonder why, when and where the casting was made and what may be the meaning of this tilted, unbalanced and exaggerated letter D, out of proportion to the rest of the inscription and which has not yet appeared on any other Samson plate.

If for the reasons given under Figure 81, this pattern and the Cana, David and Goliath, Elijah, and Pharisee plates, Figures 50, 53, 59 and 81, were designed by the same person, this mould must have been carved about 1740 and the D inserted between then and 1760, and because D as an initial letter would not stand for the name of any iron master known to us of that time, and because Durham is the only furnace name then represented by D; we may not unreasonably guess that the strange misfitting initial may have been stamped in the casting sand at the latter furnace.

57.

Elijah and the Ravens of B. S. D. W.

Right plate. Size, H. 23¾ x W. 26¼. B. H. S. No. 1688.

At the foot of two leafless trees, Elijah lying upon his back, kicking his legs in the air, is fed by two fluttering ravens, while another bird perched upon the branches of a second leafless tree to the right, seems about to fly to the rescue. A third bird sits upon a smaller tree to the left. Four hearts, in relief outline, are set above two lozenges in the upper background, balancing the pattern, while above a medallion, flanked with two stemmed tulips and containing the inscription 17. BSDW. 6. O., runs the text filling the transverse band, ICH. HABE. DEN. RABEN. BEFOHLEN, DICH. ZU. VERS. 1. B. D. K. 17. C.

The inscription is an abbreviation of Luther's version of 1 Kings 17-4, where in a description of the deadly drought of years, and the famine in Israel prophesied by Elijah, the prophet's life is saved by one of the most celebrated miracles in the Bible, "And I have commanded the ravens to feed thee there."

In the German the word VERS. stands for VERSORGEN, and the following letters continued upon the lower line, broken by the upper rim of the medallion, stand for 1. Erste, B. Buch. D. der, K. Konige. 17. C. Capitel. The final C for "capitel," is balanced by a decorative scallop on the left, preceding the I, while the BSDW. within the date 1760, in the lower medallion, stand, according to Mr. B. F. Owen, for the initials of Benedict Schwoope and Dieterich Welcker, who were ironmasters at the old Shearwell Furnace at Oley, Berks County, Pa., in 1760.

The left replica of this plate, Figure 58, at the Pennsylvania Museum at Fairmount Park, Philadelphia, here also

58.

illustrated, shows two welts marking cracks or warps in the board pattern, crossing the backgrounnd vertically, one of which intersects the heart outline, the date medallion and the letter S, without scoring the leg of Elijah. Both welts are wanting upon Figure 57.

59.

Elijah and the Ravens of Kingston.

Front plate. Size, H. 24 x W. 17¾. Mrs. James Van Buren, 97 Green Street, Kingston, New York. In use 1913 as a fireback in the parlor fireplace.

David, or Joseph leads the ass towards Egypt with a long bridle, art seems to have forgotten its history and gone back to the infantile steps of its beginning and we seem to be looking at the rock carvings of ancient Asia or the wall pictures of Egypt in such patterns as that of the Critic pulling a splinter (the mote) out of his eye (Figure 80), the warning of Bel-

Many an exciting page in a book of this sort has to be suppressed. The plate, first seen by the writer in 1907, was photographed by Mr. Wm. H. Long, of 166 Pine Street, Kingston, in December, 1911, and the details of the effort to get the picture, with the long correspondence, often interrupted, lasting through several years, the exasperating obstructions, misunderstandings, blunders, shifting of scene and persons, disappointments and coincidences belong to that class of adventures which have to be omitted for fear of offending somebody.

No replica of this interesting plate, which was undoubtedly cast in Pennsylvania, appeared until Mr. William H. Godshall found one in 1913 in pulling down an old house in Germantown, Pa.

Elijah, kneeling, reaches with his right hand to receive his food from two ravens, holding round and square morsels, intended to represent bread and meat, in their beaks. The framework and treatment of the figure, closely resembling that of the Samson, Pharisee and Publican, David and Goliath and Cana plates, Figures 55, 81, 53 and 50, betrays a common origin. The inscription reads:

DAS. 1. B. DER. KONIG. AM. 16.
NACH. DEM. ELIA. SICH. DORT.
AM. BACH. CRITH. VERBORGEN.
LIES. GOTT. MIT. FLEISCH. UND. BROT.
DURCH. RABEN. IHN. VERSORGEN.

The First Book of Kings, in 16.

"After that Elijah hid himself there on the Brook Crith, God had him nourished by ravens with meat and bread."

60.
The Scales.

Front plate. Size, H. 24 x W. 20. Pennsylvania Museum, Fairmount Park. Mus. No. '08—693.

Under a vaulted canopy, two flying angels, one of whom holds a pair of scales in his left hand, compose the extremely simple pattern, the canopy of which consisting of two striped columns with square capitals supporting a double vault cast in a single band, finds no counterpart among the more elaborately vaulted and decorated columns of the series. There appears to be no plate in the whole collection with which we may class this primitive pattern, unless it be Figure 57. In this latter case, however, the similarity of treatment in the legs of the figures, and in the formation of the letters of the inscription, with one N out of three upside down in Figure 60, and two out of three in Figure 57, and with the exceptional straight cross-arm in the A in both cases, is so strong that we might reasonably suppose that the same mould carver made this pattern for Welcker and Schwoope at Shearwell Furnace about 1760.

The inscription is evidently Luther's translation of Daniel 5-27, embodying the warning of the handwriting upon the wall, (during one of the most dramatic episodes described in the Old Testament), when Belshazzar's doomed banquet ends and Babylon falls at the ominous writing on the wall translated by the prophet.

The English version, "Thou art weighed in the balances, and art found wanting" reads in the German "Man hat Dich in einer Wage gewogen und zu leicht gefunden," or as abbreviated upon the plate, MAN. HAT. DICH. N. INER. WAGE. G. W. V. Z. L. F. D. V. C., the single letters after the word WAGE standing as follows: G. W. for gewogen, V. for und, Z. for zu, L. for leicht, F. with, the middle arm broken, for funden, D. for Danealis, V. for funfte, C. for capitel.

We see manifest marks of the overflowing of hot metal in the loss of the I in Dich, in the single N, in the blurred word Einer, and in the tailless Z and armless F. Furthermore, the horizontal sand welt, below the lower line, shows that the inscription, fastened upon a separate board, may have been pressed into the casting sand, as a separate piece, after the general laying out of the pattern, while the vertical welt, marking a warp in the board background, pertains only to the upper pattern, and does not undermark the inscription below.

There are differences between this plate and Figure 57, however, which ought to be considered, namely, that the Latin numeral V on this plate is replaced by the Arabic figure on 57 and nearly all the other plates, and that the W, with crossed arms on 57, is here without them.

Thus far, without the elucidation of its side plates not yet found, the plate bought at Mrs. Cookerow's furniture store at Pottstown, and exhibited by her at Founder's Week Exhibition in Philadelphia, remains unique in the collection.

Replica in possession of Gideon Hoch, Oley, Berks County, Pa., June 30, 1912.

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shazzar shown by an angel carrying scales, or Elijah fed by ravens. But as in the work of savages, though the all-important meaning is first sought for, the decorative spirit still prevails in the balance of canopies and inscriptions and the framework of medallions. And though the rude pictures may halt in their execution, they never fail in their thought.

The Moors emblazoned the name of God in the gorgeous filagree of the Alhambra. The Gothic Cathedral, the tiles and stained glass of the Middle Ages speak in the same language. Here, too, the art is religious and holds to the same highest theme of decorative expression. As in the old farmhouse of Germany, so in the log cabin of the pioneer, or his later dwelling built of surface stones often laid in clay, these Bible pictures, produced by the pious child of the Reformation through the study of Luther's Bible, tell in a simple and

61.

Front Plate of 1749.

Size, W. 18¾ x H. 24¾. B. H. S.

A basket-shaped flower pot is filled with realistic flowers and flanked with heavy scrolls, above the date 1749, within a scrolled medallion in the lower panel.

Lacking the religious inscriptions, with its meaningless filigree and inartistic jumble of realism and decorative clumsiness, suggesting the stove patterns of 1880, the plate is nevertheless remarkable as a sort of anachronism, apparently modern, yet belonging to the earlier and more interesting period of the history of American stoves, when Biblical scenes and religious inscriptions generally prevailed, and the conventionalized and emblematic floral patterns, described in the text, so common on the latter stoves, had not yet appeared. It may be compared with Figure 64, dated 1745, also a front plate, and which, like this specimen, lacks the evidence of its companion side plates. But the latter, though also meaningless, is at least conventionalized with skill.

(1) Figure 61 was bought by the writer from W. H. Boone, the antique dealer at Pottstown, in 1910. (2) Figure 62 shows a replica in the possession of Mr. P. W. Wright, of Philadelph'a. Another replica (3) is at the Pennsylvania Museum at Fairmount Park, Philadelphia. (Information, Mr. E. A. Barber, Director, July 25, 1913.)

62.

direct manner of the guidance of Providence, the preservation of the just, the beauty of brotherly love, the punishment of the wicked, and the miracles of Christ and the Prophets.

Dr. Kassel searched in vain for evidence that the German stove plate designs were copied from woodcuts in German Bibles, and no such proof has yet appeared here.

When more German plates are collected for comparison, reminiscences or repetitions of ancient rhymes, or methods of treatment adopted a century or two earlier, by the old German mould carvers, may appear in the American patterns, as now we see the figure at the pulley-well of the German Samaria Plate (Figure 19), appearing again in the American Cana pattern (Figure 49), and find the Dance of Death rhyme, of Pennsylvania, rudely quoted from the Basel inscription nearly four hundred years old. Otherwise the American designs appear to be original.

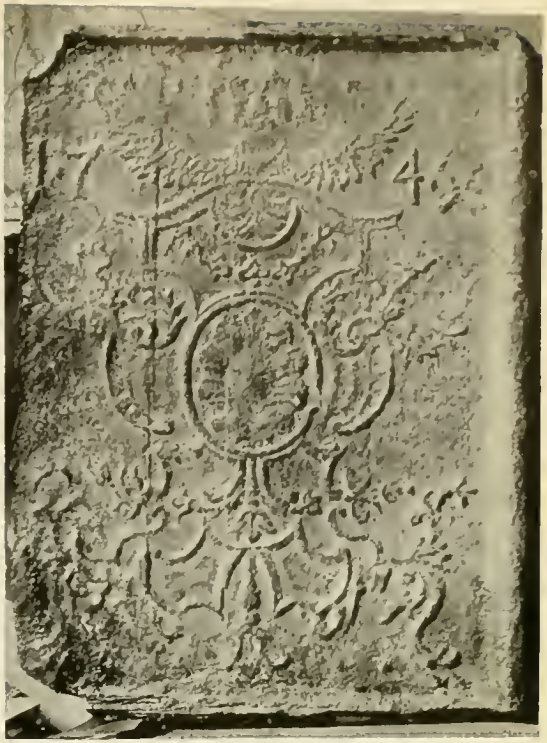
Besides the stove plates on exhibition at the Young Men's Missionary Society at Bethlehem, Pennsylvania, collections of stove plates, sometimes including firebacks, and represented through the kind permission of their owners by the illustrations here shown, have been made since 1897, by the Bucks County Historical Society; by Col. H. D. Paxson, at Holicong, Bucks County, Pennsylvania; by the Historical Society of Pennsylvania, the Pennsylvania Museum at Fairmount Park, Philadelphia; by Mr. B. F. Owen for the Berks County Historical Society at Reading; by the Honorable S. W. Pennypacker at Schwenksville, Pennsylvania; by the National Museum at Washington; by Mr. H. K. Deisher at Kutztown, Pennsylvania, and by the Metropolitan Museum at New York.

63.

Front of Jamb Stove.

Size W. 19½ x H. 22½. Moravian Historical Society, Nazareth, Pa. Here we have a plate decorated in double panels and showing the date 1749, which belongs to a peculiar class of designs as yet appearing on front and never on side plates. Dated at a time when the fine emblematical floral patterns had not yet appeared, when advertisement was as yet unknown and biblical pictures generally prevailed, they are nevertheless decorated not with the Bible pictures and religious inscriptions, or symbolic tulips, but with a floral filigree and scroll-work no less meaningless and decadent than that which appears later on the ten plate stoves, and which seems out of place in the chronology of the patterns here illustrated.

Are these uninteresting designs to be regarded as makeshift fronts, companions for pictorial side plates whose fronts are not yet accounted for, or as companions to meaningless sides which yet remain to be found? (See note 117 and figure 88-a.)



64.

The Winged Head.

Front plate. Size, H. 26½ x W. 20¼. Berks County Historical Society.

A winged human head set between the figures of the date 1745, rests on a curved bracket overtopping a filigree of scrolls, medallions and leafage, which fills the whole plate without panelling. Found in 1909 by Mr. B. F. Owen associated with the top and both side plates of the Joseph stove, Figure 46, standing in the kitchen fireplace of an old house, once a Moravian school and meeting house, now owned by Mr. Moyer, in Oley Township, Berks County, Pa. Though it may have

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But as remarked before, the series of plates thus far discovered is very incomplete, nearly all of them appearing as side plates without their fronts, or front plates without their sides, thus lacking the explanation of their companion patterns, and frequently showing interrupted inscriptions,[114] or imperfectly explained designs. Until now, among all the pictorial patterns found, only three have appeared showing both pictures for a given stove.

The Samson plate (Figures 55, 56), with its double canopy representing two scenes, and its inscription, for a long time undecipherable, was first found in a log cabin near the "Haycock Mountain," in Bucks County, Pennsylvania, and described by the writer in the Volume for 1899 to 1901, of "The Proceedings of the Numismatic and Antiquarian Society of Philadelphia." Next it appeared set in the cement pavement of a garden in Harrisburg, then in a junk heap in Lancaster, and twice as a cistern cover at Hatboro, Pennsylvania, but never with a fellow until Figure 54, found with it as a chimney top at Willow Grove, Pennsylvania, came to light, after an interval of nine years, as its long missing front plate.

The Wedding plate (Figure 69), first seen by the writer at the Moravian Museum of the Young Men's Missionary Society in

been used in this instance as a makeshift front in the Joseph stove it can not have been originally cast as such, since, though no front plate for the latter has yet been found, all the side plates thus far known are dated 1749.

Several other plates of jamb stoves were found in a hall fireplace in the same building, where the hall passed through the center of the house, with fireplaces (one of which was perforated as for a five-plate stove) opening on either side, and the chimneys from which arched together on the upper floor and passed through the roof as a single flue. The two fireplaces in question were both backed by rooms, one of which, as the fireplace orifice indicated, was heated by a Jamb stove.

65.

Side Plate of Five- or Six-Plate Stove.

Size, H. 25½ x W. 24. Bucks County Historical Society

Unfortunately the rims on this plate have been so broken, worn or rusted that it cannot be decided with certainty whether the pattern has belonged to a five- or six-plate stove.

Coats-of-arms are so common upon stove plates cast in Germany in the 17th and 18th centuries that they form a class by themselves, but this and the Arms of Philadelphia, Figure 39, are the only armorial stove plates thus far found or heard of by the writer, in Pennsylvania. The arms, enclosed in a circle flanked with scrolls, surmounted with a crown and resting under a vaulted canopy supported on two plain columns, are quartered with a horse, a rose, a net, (resembling the Arms of Navarre) and a flower. A vertical warp-crack from the wooden mould crosses the design from top to bottom.

66.

Seal of Philadelphia.

Front plate of Jamb Stove. Size, W. 19 x H. 22. Mr. W. H. Godshall, Chestnut Hill, Philadelphia, 1914. Found by him in 1913 bedded in the walls of an old house demolished by him in Chestnut Hill along with the date stone marked 1734.

One of the original seals of Philadelphia dated 1701, quartered with the clasped hands, scales, ship and wheat sheaf, appears here on a shield of identical shape with that upon the seal. The English motto, SEAL OF PHILADELPHIA 1701 is lacking, but instead is cast the rhymed inscription half effaced by rust ALS. PHILADELPHIA. ANFANGS. NAHM ——— UM ——— SE. DIS. WAPPEN. UBERKAM. Translation: "When Philadelphia at first took ——— these arms received."

Both shield and inscription appear raised above the background as if inserted separately into the wooden mould above the general level, if not stamped upon the casting sand with loose stamps.

Bethlehem, Pennsylvania, and afterward found by Mr. B. F. Owen near Reading, Pennsylvania, long remained without a fellow, until Mr. Owen discovered (Figure 70) the Wedding Dance as its long lost front plate, in 1910, in another old house in Berks County.

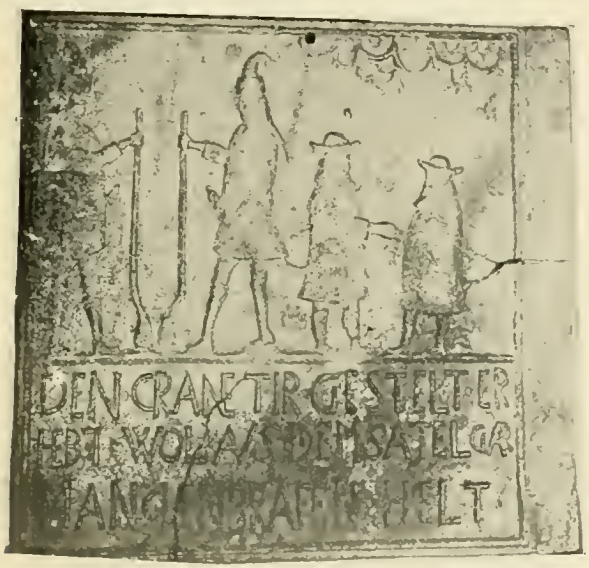
The latest of the dated figure patterns, representing Elijah fed by ravens (Figures 57-58) and marked 1760, appears by inference from its appended initials B. S. D. W. to have been cast at Searwell Furnace, at Oley, Berks County, Pennsylvania, where, according to Mr. B. F. Owen, of Reading, Benedict Swope and Dietrich Welcker were iron masters at that time. If so, we must suppose that Figure 60, representing angels holding the fatal balance for Belshazzar, expressing unmistakable similarity in design, was carved by the same hand about the same time, but there is no reason for supposing that because we have proved one plate to have been made at a given furnace, several others, showing the same peculiarities of style, were also made there, since the same mould carvers may have worked, and, as the evidence shows, did work, for different furnaces in the same year.

67.

The Prussian Grenadiers.

Left plate. Size, W. 25 x H. 23. In an Old House, at Dyerstown, Bucks County, Pa., 1914.

Several side plates, replicas of this remarkable pattern, at the Kingston Museum, one of which is shown in Figure 68, together with one in possession of Mrs. Van Courtlandt, at Croton, N. Y., were found in the area of Dutch settlement, in old houses at Kingston-on-the-Hudson, where, singularly, no stove plates with inscriptions in the Dutch language, have yet been found, and all the evidence shows that the old households were furnished with German stoves, either imported from Germany before 1720, or after that time, made in Pennsylvania.



68.

The Pennsylvania Historical Society has three replicas (two left and one right) of this singular plate, all of which have apparently been used as firebacks, and are perforated with four holes at the corners as for clamping them against the back walls of fireplaces. From these plates, seen in 1897, the description, without illustration, in "Decorated Stove Plates," page 22, was written. After a fruitless effort to get these plates photographed in time for a pamphlet then writing, nothing further was seen of the pattern, until the Kingston replicas appeared, after which in 1908 Mr. Grant Myers found a right and left replica (the original of Figure 67) standing as firebacks in two parlor fireplaces in an old house at Dyerstown, Bucks County, Pa. All efforts to find the front plate, completing the inscription, or further explaining the picture, have failed. A looped curtain fills the upper right corner, and two warp-cracks run vertically along the line of the original board, across the pattern to the left, crossing the gunstock, background and lower panel border. The two tall men in pointed caps and queues, with swords, and holding grounded guns, no doubt represent the gigantic Grenadiers of Frederick William II, King of Prussia, so celebrated about 1740, while the short bearded men, with broad brimmed hats, and long hair, may represent, as German Mennonites, Schwenckfelders, or Amish settlers of Pennsylvania in the 18th century, the friends of peace. The broken inscription reads:

DEN. CRANETIR. GESTELT. ER.
HEBT. WOL. AUS. DEM. SATEL. GAR.
MANCHEN. BRAFEN. HELT.

"To the grenadier is placed. He knocks out of the saddle full many a fine hero."

69.

The Wedding.

Right plate. Size H. 26 x W. 29 inches. Young Men's Missionary Society, Bethlehem, Pa.

Under fluted columns and curtained arches, the minister, Bible in hand, from an elevated pulpit, marries the bride, carrying a nosegay, to the left, and the bridegroom on the right, as both figures seem to emerge from open doors. Below, and filling the entire lower panel, runs the legend, one of the few non-scriptural ones in the collection:

WER. DAR. IBER. NUR. WIL. LACHEN.
DER. MAG. ES. BESER. MACHEN.
TATELN. KINEN. JA. SER. VIL. ABER. BESER.
MACHEN. IST. DAS. RECHE. SPIL.

"Let him who will only laugh at this make it better." "Many can find fault, but the real game is to do better." Whoever carved this undated pattern and its companion front plate, Figure 70, seems to have left no trace of his singular style and workmanship on any of the other patterns here illustrated, unless we find it in the lettering of the inscription on the Plow, Figure 52. Furthermore, the inscription, one of the few non-scriptural ones in the collection, is peculiar in not explaining the pattern, but rather defending it from critics.

For a long time, the plate first seen in 1897 by the writer at the museum of the Young Men's Missionary Society, and noticed by John Hill Martin in his Historical Sketch of Bethlehem, remained unique, until Mr. B. F. Owen, of Reading, found a replica, left plate, now at the Berks County Historical Society, in the bedroom fireplace of an old house formerly belonging to the Muhlenberg family, at the mouth of Angelica Creek, Cumru Township, Berks County, Pa., in 1909, soon after which the remarkable dated front plate, figure 70, was found by Mr. Owen in possession of Mr. Paul K. Stoudt, where it had been used as a fireback in one of the parlours.

3. Replica Mr. B. F. Owen. Found at old Moravian Meeting House near Oley, Berks County, Pa. 4. Replica, ditto. From Dietrick House near Oley. 5. Replica Col. H. D. Paxson, Holicong, Bucks County, Pa., May 27, 1913.

70.
The Wedding Dance.

Front plate. Size, H. 26¼ x W. 22½. Berks County Historical Society.

A man in broad-rimmed hat to the right, and a woman in the middle, clasp hands as they begin dancing to the music of a fiddler; also with hat on, and apparently keeping time with his right foot, who stands playing, to the left of a small table, set with a cup and tankard. Three semi-circular curved lines suggesting canopies border the background overhead, and the date, 1746, without further inscription, and surrounded with leaf-scrolls, fills the medallion below.

Though not found associated with Figure 69, there can be little doubt that this plate, which Mr. Paul K. Stoudt, of Spring Township, Berks County, Pa., exhibited at the Berks County Fair in 1909, and later deposited at the Berks County Historical Society, and which is of the required size and similar in subject and treatment, is, as Mr. B. F. Owen supposed, its companion front plate.

The non-religious subject must have pleased rather the Lutherans or Moravians than the more strict Mennonites, Dunkards, Schwenkfelders or Amish, who had abolished secular singing, forgotten the folk-songs of old Germany, and probably gave little countenance to fiddling and dancing.

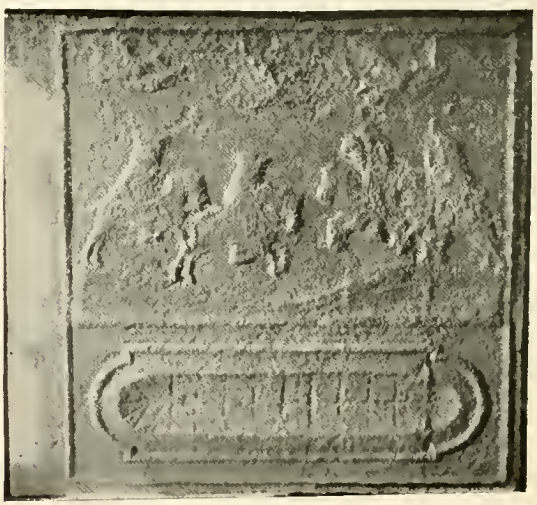
71.
The Swarm of Bees.

Left plate. Size, H. 24 x W. 27¼. Bucks County Historical Society.

This curious plate, in two fragments with a corner missing, was rescued from destruction by the writer at the last moment as it lay among the car loads of scrap-iron assorted for transport at Williams' junk yard in Harrisburg in 1910.

The plate shows neither date nor inscription, and the lower panel, usually occupied by a medallion, is here filled in with a thin, meaningless scroll. But its remarkable feature is its pattern, which classes it with the unusual category of designs devoted to amusement or caricature, rather than religion.

A swarm of bees hangs upon the lower right foliage of the tree, under which, to the left, a man appears to be clapping his hands, while three heavily skirted women, on the right, one of whom stands upon a hillock, thereby helping to fill the background, are ringing bells. A curtain-like mass of quilted loops, resembling those upon Figures 43 and 67, fills the upper corner. There is no sign of the once familiar dome-shaped beehive in the picture, and the turban like headdresses of the women give no suggestion of the common sunbonnet of a later day.



72.
The Four Horsemen.

Left plate of Jamb Stove. Size, W. 24 x H. 22½. Mr. H. K. Deisher, Kutztown, Berks County, Pa. November 21, 1913.

Three angels flying in mid air direct or inspire two pairs of horsemen in the dress of about 1750, as they ride toward each other across a waved foothold, converging into a central hollow.

The plate bears no date or inscription, but is divided as usual into two panels, in the lower of which, the large blank date medallion, shows cross cuts upon its included surface, as of the impressions of a wooden mould roughed for the insertion of the inscription, carved or otherwise made in a loose piece, and here intended to be set on with glue, mastic, or plaster of paris.

Left replica in Bucks County Historical Society. Found by Mr. Patrick Trainor lying picture down as a stepping stone in a farmyard at Ottsville, Bucks County, Pa., in June, 1914.

73.
The Man and Goat.

Front plate. Size, H. 24 x W. 20. In possession of Messrs. Nieman and Saul, of the Keystone Foundry, State Street, Hamburg, Pa.

The picture is divided into two vaulted panels, separated by a vertical band, and adorned above with very curious scroll-work. In the left panel a man dressed in a long coat slashed behind with a button, carrying a sword in one hand, flourishing what resembles a pair of scissors in the other, and wearing a large three-cornered hat of the style of about 1750, rides a goat; while in the right panel, another grotesque figure, holding a sword in both hands, in similar costume, save for a plumed headdress, fills the space. Above, in the background, is the date 1753, while below, in the lower panel, spaced in four bands, increasing our curiosity, without explaining the meaning of the picture, is the rhymed inscription:

SEHET. ZU. IHR. LIBEN.
LEUT. WIE. DER. HERR.
AUFF. DIESEM. PFRTE.

REIT. D. 14. SEPTMBR. "See here good people how the gentleman (Herr) rides on this horse on the 14 September."

No event on September 14, 1753, either in Pennsylvania, where James Hamilton (1748-54) was Governor, or in Germany or England, where Frederick the Great and George the Third reigned, appears to explain this joke or satire (the only caricature in the whole collection), upon some person, so publicly well known as to strike the popular fancy and increase the sale of a stove at that time. Though it may be suggested that according to Watson (Annals 2, page 256) a temporary jealous hostility, against Governor Hamilton, had arisen between the new German settlers, then political friends of the Quakers, and readers of Christopher Sauers's Germantown Newspaper, in fear of overtaxation and a Militia conscription.

74.
David and Jonathan.

Right plate Size, H. 26½ x W. 27½. In the Museum of the State Library at Harrisburg, Pa.

Bought by Mr. L. F. Kelker, together with Figure 43, in 1907, at Kutztown, Pa.

Under the drawn and heavily tasseled curtain of a canopy, supported on fluted columns, with pendant vault and chandelier, occurs the dramatic and eventful meeting between David and the son of his worst enemy, as related in I Samuel 20, 3. The barking dog marks the intruding figure, with cloak and sword, as that of David, who with raised right hand, and two open fingers, asserts his danger on the Lord's life, while Jonathan, in long robe, to the left, with uplifted right hand, protests against his father's malice. It is the right hands of the figures that are raised, and the left that are grasped in friendship.

Below, filling the entire lower panel, runs the clumsily carved inscription, all the N's of which are upside down.

DAVID. UND. JONATHAN.
WARLICH. SO. WAR. DER. HER.
LEBT. UND. SO. D. I. B. SAMU. 20. 3.

"David and Jonathan, but truly as the Lord liveth, and as the 1 book Samuel 20-3," from Luther's translation of the Bible, ending:

"Und so wahr deine Seele lebet es ist nur ein Schritt zwischen Mir und dem Tode," "and truly as thy soul liveth, there is but a step between me and death."

75.
Danee of Death.

Right plate. Size, H. 22 x W. 23. Bucks County Historical Society, No. 879.

A skeleton with uplifted left arm holding a leg-bone as a club, and seizing his victim with his right hand, interrupts a d spute between a richly dressed person brandishing with both hands a sword, the curved scabbard of which hangs at his waist, and a gesticulating figure to the right dressed in a flowing cloak, and apparently wearing a helmet. The background above and to the left is filled up with very clumsy leaf-scrolls, and the costume, particularly the slashed breeches of the victim, appears to represent the dress of the 16th century.

The plate was described in "Decorated Stove Plates" as a survival in America of one of the episodes of the mediæval allegory known as "The Dance of Death," which as painted, written or printed, appeared in Europe in many versions after the 14th century, and illustrates in about forty pictures and rhymes the triumph of death over mankind. But the origin of this particular inscription and identity of the episode was not until recently accounted for, as the sixteenth of the celebrated series of mural pictures with descriptive rhymes, known as the Basel Todtentanz, two versions of which existed, one painted by an unknown artist between 1439 and 1480 in a Dominican cemetery at Basel, and the other, about 1312, on the cloister walls of a nunnery known as Klingenthal, at Little Basel, a suburb of Basel.

These versions, according to Massmann (Die Baseler Todtentanz, Stuttgart, 1847), together with six older versions known as the Munich and Heidelberg texts, as if expressing a single theme with variations, illustrate the series of about forty death scenes, in the same general sequence, and with variations of the same rhymed verses, in which Death as a skeleton challenges, and the victim answers. And it is these ancient rhymes in German and the simplicity of the pictures, in each of which only two figures, Death and his victim, appear, that distinguish these earlier Death Dances from the celebrated wood-cuts of Hans Holbein, executed a hundred years later in 1530, and in which, though the sequence of episodes is about the same, many figures and accessories are introduced into the drama, and Latin quotations from the Bible take the place of the German rhymes.

The great Basel fresco, after having been repainted and restored several times, almost beyond recognition, was destroyed by a barbarous mob in 1806, and the lesser Basel pictures went to ruin before 1800. But both paintings had fortunately been copied before their total restoration and destrucion, the first, by John Hugh Klauber, of Basel, in 1568, and also by Matthew Merian the elder, in a series of engravings (Der Todtentanz, by Matthew Merian, Frankfort, 1649), and the second or lesser Basel series, by Emmanuel Ruchel, in 1766.

Here we have undoubtedly the episode of Death and the Nobleman, the sixteenth in the great Basel series, and though the rude picture on the stoveplate bears no resemblance to either the great or Little Basel originals, as thus preserved, the rhymed inscription:

HIR. FEIT. MIT. MIR. DER. BITTER. TOT.
ER. BRINGT. MICH. IN. TOTS. NO.

"Here fights with me the bitter death
And brings me in death's stress,"

is unquestionably a rude variation of the last two lines in "The Nobleman's Answer to Death," which according to Massmann reads in the older, or Little Basel text:

NUN. FICHTET. MYT. MIR. DER. DOTHT.
UND. BRINGT. MICH. IN. GROSE. NOT.,

and in the great Basel text:

NUN. FICHT. MIT. MIR. DER. GRIMME. TODT.
UND. BRINGT. MICH. GAR. IN. GROSSE. NOHT.

The phrases "DER BITTER. TOD." and "TODTS. NOTH." occur in the answer of the Count and the Chorister respectively, in the great Basel text. TODT. rhymes with NOTH. in one of the Munich texts, and there is nothing unusual in the variation between the American rhyme and the German original except the English word FEIT. for FICHT., where we may perhaps suppose that the German pattern carver who may have been born in America before 1745, the approximate date of the plate, had already begun to mix his mother tongue with English.

76.

No companion front plate, possibly extending the inscription, has been found, but several replicas of the side plate have appeared. (See note 117.)

(1) Right, in the possession of Mr. Theodore Bliss, of Flemington, N. J., in 1911.

(2) Left, in the possession of Col. H. D. Paxson, Holicong, Pa., in 1912.

(3) Right, at the Bucks County Historical Society.

(4) In the collection of the University of Pennsylvania, obtained by Mr. Stewart Culin in 1897.

(5 and 6) Left and right, at the Bucks County Historical Society, the latter two, presented by Mr. Jacob Clemens, of Doylestown, are parts of a complete stove, lacking only the front plate, shown in Figure 76, and were found, together with the top and bottom plates, scattered about the premises of Mr. Clemens, having been previously used as a pavement for a

large, open kitchen fireplace. There the original hole for the construction of the stove, itself ventilated by a smaller air-hole, extending upward through the chimney wall from the cellar, and entering the chimney above, still exists. The stove had doubtless been built so as to project into and warm an old log house, formerly constructed, according to Mr. Clemens, against the back wall of the fireplace, although Mr. Clemens, whose ancestors built the house in the 18th century, had no knowledge or tradition of the stove in use, or of the meaning of the hole in the wall.

(7) Left replica, Bucks County Historical Society, presented by Mr. John P. Ott, of 1525 South Eighth street, Philadelphia, in August, 1913, and found in 1900 on the farm of James McCahan at Southampton, Bucks County, Pa.

(8) Replica, ditto. Bought by writer at junk yard, 605 South Front street, Philadelphia, February, 1913.

77.

The Death of Absalom.

Right plate. Size, H. 26½ x W. 28. At the Berks County Historical Society. Found in 1909 by Mr. B. F. Owen, laid inscription downward, together with its companion left plate and a top plate, as a pavement, in the kitchen hearth at Mr. John Illig's old house, built in 1752 at Millbach, Lebanon County, Pa. A series of eight other plates, with the front of IARB, the front of WILLIAM BORTSCHENT, and the left Stiegel plate, Figure 124, with several broken fragments, were found in the old mill, chicken house and tobacco shed.

From the left branches of a large tree, growing in the middle of the pattern, Absalom, hanging by his long hair, which he vainly tries to pull loose with uplifted hands, kicks desperately in the air. His horse, saddled and bridled (mule in 2 Samuel, 18), gallops away to the left. A horseman in the middle, Joab, thrusts a spear into the hanging man, while another, one of the ten armor bearers, charges with a spear. A leafless tree, with lopped branches, stands to the left, while from the right margin of the picture apparently extend the shafts of three, possibly four, spears or lances adorned with pennants, either in general indicating the approach of the armor bearers, or the idea of the three spears (verse 14) thrust by Joab himself and referred to in the explanation which follows. The foliage is treated in quilted tufts like the sky filling of Figures 43 and 68, and below in three margined bands, leaving space for a fourth unfilled line at the bottom, runs the much rusted rhymed inscription, deciphered with great difficulty:

AUF. BAUM. BLIEB. ABSOLOM. DER. BESE. BUB. BE.

HANGEN. UND. MUS. DREI. SPIES. ALDA. IN.

SEINE. BRUST. EMPFANGEN. DAS. 2. B. SAM. 18. C.

"The bad boy Absalom stays hanging in a tree and must there receive three spears in his breast. The 2 Book of Samuel, 18th Chapter."

The left replica above noted is in the Museum of the Bucks County Historical Society.

On the demolition of Jamb stoves, about 1770 to '80, the loose plates useful for gutter bridges, chimney tops, drip stones, hearth pavements, etc., were not universally cast aside as useless rubbish, but frequently remained upon the original premises, escaping removal in subsequent sales. Between 1800 and 1850 they were frequently bought by farmers for similar uses on other properties. Hence the mixture of tops, sides and ends of various stoves at certain farms as above noted.

78.

Abraham and Isaac.

Front plate. Size, H. 23¼ x W. 20. Senate House, Kingston, New York.

An angel stays the uplifted sword of Abraham about to slay the kneeling Isaac. The extraordinary rudeness of the figures of Father, Son and Angel, the bonfire burning and smoking on the right, the stiffly creased and rope-belted tunic, coarsely carved bushes and leafless tree with lopped branches, the size and lettering of the inscription and absence of canopy, almost certainly connect the style and workmanship of the plate with that of Figure 43, the Molten Calf, and Figure 79, the Flight into Egypt. The guttered rims, cast solid upon the margins, in the American fashion, are, unlike any others in the collection, decorated with an incised diaper pattern and the inscription filling the entire lower panel reads:

ABRAHM. UND.

ISAC. 1. B. MOS. 22. C.

"Abraham and Isaac, 1 Book Moses, 22 Chapter."

A replica, lacking the hatchings on the grooved rims, bought at the Kelm property, near Oley, Pa., in 1913, is in the possession (1914) of Mr. H. K. Deisher at Kutztown, Pa.

79.

Flight into Egypt.

Left plate. Size, H. 24¼ x W. 24¾. Museum of Berks County Historical Society. Found by Mr. B. F. Owen against the wall of an outbuilding in the yard of Solomon De Turk, in Smithy Township, Berks County, Pa., in the summer of 1909.

Under the loops of an overhung curtain, and between two leafless trees with lopped branches, Joseph, with long robe, staff and aureole, leads over a hillock, the ass, astride of which, riding man-fashion, is seated Mary holding the infant.

The inscription, clumsily carved, and irregularly spaced in two rhymed lines, reads:

DAN. WI. IOSEPH. IM. TRAUM.
BEFEHL. VON. GOT. BEKAMM.

Then as Joseph in a dream received command from God.

The treatment of the figures, extreme rudeness of the pattern, the lopped trees, looped curtain and waving foreground, associate the plate with the Molten Calf, Figure 43.

The design appears to have been carved upon two very wide boards, the warped junction of which, not erased from the sand mould, passes vertically downward through the picture. The treatment of the foliage of the central tree unmistakably indicates the rude work of a wood carver's chisel, and here the above-mentioned warp crack passing through the foreground, does not appear on the tree root or foliage, showing that the crack had been filled up and corrected on part of the design at least, rather than that the carving had been glued upon the board background in the form of thin wooden figures cut out in silhouette.

Compare the warp cracks in the 1745 front plate, Figure 64, the Pharisee and Publican, Figure 82, the Balance, Figure 60, Elijah, and the Ravens, Figure 58, and Cain and Abel, Figure 42.

Replica, right, in collection of Col. H. D. Paxson, at Holicong, Pa.

80.

Love Bettereth.

Right plate. Size, H. 23½ x W. 26½. Bucks County Historical Society.

The celebrated injunction of Luke 6:42 is here illustrated by two robed figures facing each other, one of whom follows the Divine command to "cast out first the beam out of thine own eye" before correcting thy brother, by pointing to a large wedge-shaped splinter projecting from his face. The style of the extremely simple undated pattern, with its peculiar vaulted canopy set upon fluted columns far within the margin, and with the inscription DIE. LIEBE. BESSERT., "Love bettereth," with its margined background set in slight relief as if stamped upon the sand with a loose mould, has no counterpart in the whole series.

The plate, upon the background of which the impressions of at least four bolt-heads have been stamped upon the sand, was presented to the Bucks County Historical Society by Mr. J. W. Lundy, of Newtown, Pa., who found it in 1910 among the rubbish of the now disused Mearns Mill, near Hartsville, Bucks County, Pa.

81.

Pharisee and Publican.

Right plate. Size, H. 24½ x W. 25⅜. Bucks County His-

torical Society. Bought by the writer at Boone's antique store at Pottstown, in 1908.

The Pharisee with supercilious gesture kneels praying before an altar, upon which stand two candles, while the Publican with clasped hands, and above whose head the word ZOELNER. Publican—is cast upon the background, stands near a vaulted door to the right. Above the picture two vaulted canopies without columns are supported on Corbels with underhung waving curtains, while behind the altar the background is filled in with two columns and a scroll. The whole lower panel is appropriated to the inscription, ill balanced, rudely spaced, and set in four channels, divided by lines.

ES. RUMHT. SICH. IM. GEBET. DER. STOLZER.
PHARISAER. DES. NIDERN. ZOELNERS. HERZ.
GEFELT. DOCH. GOTT. FHL. MEHR.
LUCA. AM. 18. CAP. 1742.

"The proud Pharisee glorifies himself in prayer, but the heart of the humble Publican pleases God much better."
Luke in 18 Chapter, 1742.

Though the front plate of this interesting pattern has never yet been found, several replicas have appeared.

1. Side plate: Seen by Dr. Sieling, of Manheim, about 1880, near Lebanon, Pa., as described to the writer, but afterwards lost.

2. Right: Fig. 82. Estate of the late Mr. C. J. Wister, of Germantown. This was described by the writer in Decorated Stove Plates, as seen in 1897, placed in the wall of Mr. Wister's library.

3. Left: Governor S. W. Pennypacker, at Schwenksville, Pa., 1910.

4. Left fragment. Bucks County Historical Society. Bought by the writer at Huber's junk yard, Lancaster, Pa., 1910.

5. Right in two pieces: B. H. S. From Mrs. C. Miller, Macungie, Lehigh County, Pa.

6. Mr. George Long, southwest corner Lemon and Concord streets, Lancaster, Pa., 1908.

7. Two fragments: Mr. C. J. Wister's estate, Germantown, Pa. (Information Mr. Albert C. Myers, 1910.)

8. Left: Found and photographed by Mr. A. K. Hostetter near Lancaster, Pa., February 12, 1912.

9. Right: Mr. J. H. Lynn, Langhorne, Bucks County, Pa.

10. Left: Ditto.

82.

There is a noticeable similarity in the decorative framework of this pattern, namely, in the acanthus adornments between the vaults, the substitution of corbels for columns, the banding of lines in the inscription, the underhung horizontal curtains and the introduction of leaf scrolls in the background, with that of the David and Goliath plate, Figure 53, the Elijah and Ravens, Figure 59, the Samson, Figure 55, and the Cana plate of 1742, Figure 50.

But the discovery that all these plates were made by the same hand or cast at a certain furnace would not greatly help the investigation, since the evidence elsewhere shows that patterns by the same carver had been sold to different furnaces.

What we wish to know here, as in all other cases, is not the name of the furnace, or the iron master, but something of the history of the mould makers who invented or carved the designs, whose names, nowhere it seems appearing upon the plates, have been forgotten by history.

83.

Adam and Eve of 1745.

Front plate. Size H. 24 x W. 20. In possession, 1910, of Mrs. Gouverneur, at an old house at Kingston-on-the Hudson.

Under the tree of knowledge of good and evil, well fruited with apples, and from the branches of which hangs a snake holding an apple in its mouth, stand Adam and Eve, no longer naked but prematurely, according to the narrative, clothed in waist-bands of leaves. Eve, to the right, seizes the apple from the serpent with her right hand, while Adam, standing by a short, leafless tree, with topped branches, eats another apple. Just behind Adam, a dog sitting upon his haunches in familiar attitude with uplifted right paw, seems to beg for the forbidden fruit, while four animals, in two of which we recognize a horse and cow, fill the background behind Eve, and rise into the sky without regard to perspective. The large medallion below, flanked with leaf scrolls, encloses the words ADAM. UND. EFA. and the date, 1745.

The treatment of the pattern differs entirely from that of the Adam and Eve plate of Durham, dated in 1741, but the curtain-like quiltings filling its upper corners connect it with the Molten Calf, Figure 43, the Absalom, Figure 77, the Prussian Grenadiers, Figure 67, and several others, where the regular conventional vaulted canopy has been abandoned.

As in the case of the smaller figures in the "Family Quarrel," Figure 38, the animal figures to the right, here show welts in the background, between the fore and hind legs, indicating that these figures had been inserted in the wooden mould out of level. If they had been impressed upon the sand as loose stamps, the positions of the impressions would have varied with that of the same animals on the replica, Figure 84,

here shown, but no such variance appears either here or on any other plates, where, as on Figure 38, similar welts around isolated forms are repeated in replicas at exactly the same place.

84.

But we know from Gardiner, Archæologia, Volume 56, Part I, and from Kassell, "Ofenplatten im Elsass," that loose stamps were sometimes used in producing patterns for the English fire-backs and German stoveplates. And Figures 56, 66, 80 and 95 possibly show evidence of their occasional use here.

The much rusted replica, Figure 84, at the Bucks County Historical Society, No. 792, described in "Decorated Stove Plates," was found in 1897 by Mr. Matthias Hall in use as a door step, in possession of Mr. Burroughs Heston, of Solebury, Bucks County, Pa., who in making a fence, had dug it out of the ruined hearth of an old fireplace.

85.

Saint George and the Dragon.

Front plate of Jamb Stove. Size, W. 21½ x H. 23. Mr. H. K. Deisher, Kutztown, Pa., November 21, 1913.

Saint George on horseback, in a nondescript flowing costume, rides against the open-mouthed dragon, as he pierces him with a long lance held in his right hand. The date 1746 fills the sky to the left, and upon a hill on the background to the right rise the trees of a forest, where, upon a leafless branch, a bird is perched.

The picture without decorative framework or canopy, fills the whole upper panel, but the inscription below, originally in three lines, seems to have been mutilated by some person who, by boring a series of holes through the iron, has contrived to break off the entire bottom of the margin, and with it the third line of the legend, unfortunately leaving us with two lines only and the words DER. STARCKE. RITER.

IORG. DEN. TODTEN.

The sturdy knight George, the Slain——.

The rude workmanship of this plate is so generally similar in style to that of the Moulten Calf, Figure 43, where the letters are cut, the panels arranged, and the date set in the sky in a similar way, that we may reasonably infer that one hand carved both patterns, either for Colebrookdale, Durham, Redding, Warwick, Mount Pleasant, Cornwall or Popodickon, the only Pennsylvanian furnaces probably in blast in 1746.

86.

The Shearwell Plate

Right plate. Size, about H. 23 x W. 24. Mr. H. K. Deisher, Kutztown, Pa.

A singular feature of this plate is that the bird in the tree top of the left canopy seems to be without significance, that the flowering plant in a pot under the right canopy is not conventionalized and that its flowers are not tulips; furthermore, the religious motto is lacking. Instead, the advertisement SHEARWELL. FURNACE. IN. OLY. appears in the central cartouche, and the name DIETER. WELKER. in the medallion below.

It has been known that there was an old furnace, known as Oley Furnace, near the town of Oley, Berks County, Pa., owned by Christian Sower and Jacob Weiner, and built, according to a date stone from the furnace stack, now (1913) at the Berks County Historical Society, in 1772, after the abandonment of decorated stoves. But that an earlier furnace called Shearwell, built between 1744 and 1760, and still in blast in 1782, stood near the former upon the same property, was not known until Mr. B. F. Owen proved the fact, not only by title-deeds, but by discovering a replica of this interesting old plate, Figure

88, in 1910 in the outkitchen fireplace of an old house at Oley, known as the Udree Mansion, formerly the property of Col. Dan'el Udree, iron-master after 1778 at probably both Oley furnaces, the title-deeds of which show that the older Shearwell stood close upon the site of the latter, and further, that Benedict Swoope was part owner with the above Dietrich (Dieter) Welker in 1760, at Shearwell, thus explaining the B. S. D. W. 1760 on the El'jah and Ravens plate, Figure 57, found in a neighboring saw m ll, which therefore, together with the Balance plate, F gure 60, for reasons above given, ought to be ascribed to the same mould carver, and probably to Shearwell Furnace.

87.

Right plate. Berks County Historical Society.

88.

Left Ditto.

88-a.

The Owl.

Front plate. Size, W. 22, H. 20. Mr. H. K. Deisher, Kutztown, Pa., September, 1914.

Under the outstretched wings of the figure of an Owl rudely conventionalized in the fashion of carvings on old American gravestones of the eighteenth century, appears the date 1747. Below it a curious balancing of stiff floral stalks, leaves and scrolling surrounds a medallion containing a central lozenge with divergent flutings and tulips.

As if of workmanship by the same hand, several features of the very curious and rude composition, namely two wheat sheaves flanking the owl's head, the trefoil leaves below the medallion, the two leaf stalks with curved stems, the notchings on the medallion the decorative scallops and the divergent fluting on the latter and the medallion, unmistakably connect the design with the typical floral pattern presently to be described as appearing later upon the stove plates.

The plate, though differing altogether in its decorative details, may nevertheless be classed with Figure 63, dated 1749, which has already been described as a front plate of similar meaningless character.

While these pages were in press and too late for insertion in their proper place, we learn that a replica of Figure 63 has been recently found by Mr. A. H. Rice, of 35 South New street, Bethlehem, Pa., in an old house in New Jersey in close association with a top and bottom plate and two side plates of the Dance of Death Pattern, Figure 76.

The probably complete jamb stove as thus found is described and illustrated in Note 117 where its uninteresting front plate is a great disappointment to the collector as it fails to further explain the Dance of Death picture or inscription. But it exactly fits the side plates, and its association with the latter, as long preserved with them in an old partition wall was such as to warrant the inference that figure 63 was originally used as a front plate for the Dance of Death stove.

If so, not only Figure 63, but the entire class of these comparatively mean ngless plates here illustrated, namely Figures 61, 62, 63, 64 and 88-a, all of which are front plates, may probably be regarded as makeshift fronts to pictorial stoves, intended to take the place of pictorial front plates, which either never existed, or which having been burned out or broken, could not be replaced on demand at the furnace.

88-b.

The Salutation.

Left plate of Jamb Stove. Size, W. 23½ by H. 22½. Mr. A. D. Mixsell, Twelfth Street and Prospect Avenue, Bethlehem, Pennsylvania, September 21, 1914. Found on the farm of Mr. Voorhees, at Lebanon, Hunterdon County, New Jersey, together with its companion right plate, a replica, and near its front plate, Figure 88-C, on an adjoining farm, in August, 1914.

Surrounded by a border in the style called Rococco, or Louis XV, fashionable in Europe and America in 1760, a gentleman and lady fashionably dressed stand upon a waved earthen foothold, from which between them grows a heavy leaved flower. The lady, with puffed skirt and high corset, holds up an open fan in her right hand, while the gentleman, slightly bowing and holding low his cocked hat, grasps her left hand in his right.

The picture suggesting the beginning of a dance, or more probably a formal fashionable salutation, fills the upper panel of the pattern, below which the inscription THE SAUTAN in very large, well-carved letters, occupies the entire lower panel.

The style of the non-religious pattern with the details of the figures, the elaboration of the Rococco filigree, and shape, size and style of the lettering resembles rather that of the Anglo-American fire-backs hereafter shown, than the workmanship of the Pennsylvania German stove plates, but its inscription which the front plate dated 1760 does not explain, at first sight seems still more remarkable. It might seem to stand for the obsolete name of a dance, social greeting or dancing master's phrase fashionable in 1760, but for two small rusty ridges appearing between the A and U, which may represent a smaller carved letter L there inserted and now nearly rusted away. If so, the whole inscription would stand for a wood carver's abbreviation of the words THE SALUTATION, with three letters of the last syllable of the latter word, namely TIO omitted at the point marked by a period before the final L, thus necessarily cutting down the word to fit the space.

But in any case the first word THE classes the inscription as in the English rather than German language, and as such standing for the only English inscription thus far found cast upon a Jamb Stove.

As this plate and its companion front, Figure 88-C, were found not in Pennsylvania, but in New Jersey, near Lebanon, in Hunterdon County, and within about twenty-two miles of old Oxford Furnace, in the neighboring Warren County (founded about 1742, abandoned 1882) noted for the production of elaborately carved fire-backs (see Figure 213 and Note 7) we may therefore reasonably suppose that the plate was carved not by a Pennsylvania German but by one of the Anglo-American mould carvers employed at Oxford, and that the plate was cast there in 1760.

Right replica on a farm adjoining the site of the discovery of Figure 88-B, September 22, 1914.

88-c.

The Salutation.

Front plate. Size, W. 18¼ by H. 22½. Mr. A. D. Mixsell, Bethlehem, Pennsylvania, September 21, 1914.

The plate, designed in two panels, is decorated with meaningless scroll work in the style fashionable in Europe and America in 1760, known as Louis XV, or Rococco. The upper panel shows an empty scroll shield surrounded by elaborate scroll bordering, and the lower panel separated by a raised band shows a medallion containing the date 1760.

Because the plate was found on a farm adjoining the site of the discovery of Figure 88-B, near Lebanon, Hunterdon County, New Jersey, in the summer of 1914, by Mr. A. H. Rice, and because the grooves of the plate exactly fit Figure 88-B, and because of the similarity in the style of the filigree in both plates, we may infer this to be the companion front plate of the Salutation pattern, and for the reasons given under the latter, may suppose that it was cast at Oxford Furnace in 1760.

89.

Cross and Tulip of 1751.

Right plate. Size, H. 24 x W. 25¾. B. H. S. No. 1242.

A glance at this interesting plate found by the writer in the hearth rubbish of an outhouse fireplace, with several other fragments, at the farm of Thomas Sassaman near Ottsville, Bucks County, Pa., in 1897, distinguishes it, with one exception, from all the other floral patterns in the collection. The aureole is missing, the heart tulips, in the lower corners, are replaced with tulips with bent stalks. The space over the central column is adorned with a cherubim. But the remarkable feature of the pattern is the form of the tulips under the canopy, which spring not from leaved stems, but from crosses.

Above the date 1751, adorned with tulips in the lower medallion, the motto DAS. LEBEN. JESU. WAR. EIN. LICHT.—"The Life of Jesus was a light," fills the cartouche, while the name IAHN. POT., ironmaster and part owner at Warwick Furnace in 1745, decorated with sprouting tulips, under the left canopy, enables us to ascribe the plate, as also Figure 90, of identical date, but with a different inscription to either Warwick or Popadickon Furnace.

According to Mrs. Potts James (Potts Memorial, pages 91, 121, etc.), there were two persons of the name of John Potts living in 1751. (1) John Potts, son of John Potts, born 1738, died after 1784, a loyalist during the American Revolution, Judge in the Court of Common Pleas at Philadelphia, partner with Samuel Nutt at Mount Joy Forge in 1764, who lived at a house called Stowe near Pottstown, afterwards confiscated, and remained some time in Nova Scotia. There he tried to introduce iron stoves of five different kinds, importing nine into Halifax in 1783, after which he returned to the United States and died soon after in the West.

But the John Potts, IAHN POT, whose name occurs on the stove-plate, is undoubtedly the father of the former, namely: (2) John Potts, son of Thomas Potts, born at Germantown in 1710, died at Pottstown in 1768. He married Ruth Savage, heiress of the Rutter and Nutt ironmasters at Coventry, in 1731. He did not found Pottsville, which was founded by another family named Putt or Pott, but founded Pottstown in 1752. He was Justice of the Peace for Philadelphia County in 1761, and by inheritance, intermarriage and his own enterprise, became concerned directly in the management of Warwick and Popadickon (alias Pottsgrove) Furnaces about 1751.

Figure 90, with its companion front plate, found by Mr. B. F. Owen near Reading, so closely resembles this plate in style, including the flowering crosses, that we may suppose that the same mould carver made both moulds for Warwick or Popadickon, in 1751.

Two replicas, right and left, omitting the broad margins, and possibly recasts, are at the Pennsylvania Historical Society, Philadelphia, where they had been previously used in the old building as firebacks. Two right replicas. Bucks County Historical Society.

Left replica, Col. H. D. Paxson, Holicong, Pa. Left replica at State Library Museum, Harrisburg, Pa.

90.

Judge Not Plate of 1751.

Right plate. Size, H. 26½ x W. 29¼. Berks County Historical Society.

This very interesting plate, found in 1910 by Mr. Becker at an old house in Berks County, Pa., together with its companion front plate, Figure 91, resembles Figure 89 in a striking manner, and, though much less artistically balanced and gracefully carved, may well have come from the hand of the same pattern carver. Both plates show the name, IAHN. POT. in the left canopy. Both show a cherubim between the arches of the canopy and both are dated in 1751, but the inscriptions differ and these and the other apparent points of similarity, such as the flower pots with the tulips, and the corner tulips or twisted palm branches, flanking the date medallion below, are nowhere duplicated exactly.

THE FLORAL PATTERN.

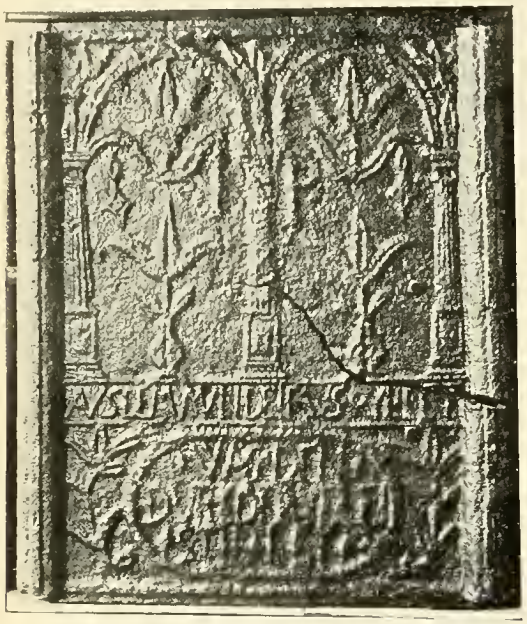
This brings us to a remarkable fact in the history of the stoves, namely, that, beginning about 1753, their adornment with pictures was generally abandoned, and a very peculiar conventionalized floral pattern previously unknown took its place.

This sudden innovation in design, which may be described as a theme of decoration endlessly repeated with slight variation but never duplicated, consists of an upper panel, showing the chief floral design, a central panel or cartouche with the inscription, and a lower panel with a medallion generally containing the date. The upper panel, still framed with

Further, the two plates thus resembling each other, have a general similarity to the set floral pattern frequently described as common upon the later stove plates, and no example of which has yet been found earlier than 1756. But the aureole is here missing, and we would not be warranted in regarding these plates as originals for the former paterns until more dated plates are found.

Neither can we be certain that the plates were cast at Warwick Furnace, where heaps of slag and ruined walls now, 1914, on the south branch of French Creek in Warwick Township, Chester County, Pa., about eight miles from Pottstown, mark the site of the ancient works. They were founded by Anna Nutt and her sons in 1736, but when, in 1751, these plates were cast, IAHN. POT., or John Potts was part owner and manager, not only at Warwick, according to the Potts MSS., but also at Popadickon or Pottsgrove Furnace.

The inscription from Matthew 7:1, in Luther's Bible, RICHTET. NICHT. AUF. DAS. IHR. NICHT. GERICHTET. WERT., "Judge not that ye be not judged," upon the central cartouche, appears four years later upon the beautiful stove of S. F., Figures 98 and 99, where it begins on the side plates and ends on the front. Here it is complete on the right plate, and the front plate, Figure 91, here shown, complements it with an explanatory rhyme.



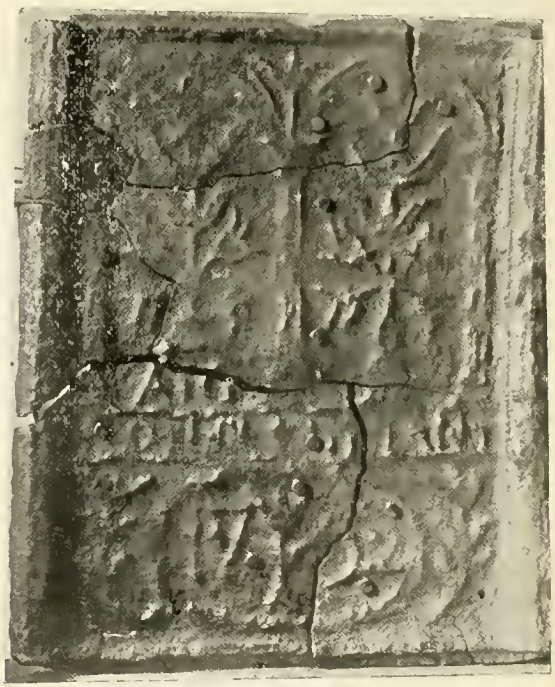
91.

Judge Not of 1751.

Front. Size, H. 27½ x W. 22½. Berks County Historical Society.

Found by Mr. B. F. Owen in 1910 with Figure 90, for which it is undoubtedly the companion front plate, in an old house in Berks County, Pa. The rusting of the inscription in the lower medallion has made it difficult to decipher, but the double canopies with fluted columns, tulips in pots and tulips springing from crosses above loops, generally match the pattern, Figure 90. The initials I. P., for John Potts, appearing in the upper background, indicate that the plate may have been cast at Warwick Furnace, and the whole rhymed inscription filling the cartouche, and completed in the lower medallion, reads: AUS. DEM. MUNDE. JESUS. QYLLET. WAS. DEN. DURST. DES. LEBEN. STILLET., "Out of the mouth of Jesus springeth that which stills the thirst of life."

Tulips springing from crosses appear upon three plates in the collection herewith illustrated, namely, upon this plate and Figures 89 and 90, and are possibly derived from Catholic symbolism. Figure 89 was described in "Decorated Stove Plates," page 6, in writing which in 1897 the writer supposed that it would be an easy matter to trace this beautiful pattern made by Germans in America, back to Germany. But nothing has seemed so surprising as the assurances received in 1910 from the Rijks Museum at Amsterdam, the Northern Museum at Stockholm, the Lorraine Museum at Nancy, and from Dr. Beck, Dr. Kassel and Mr. G. Von Collin, that not only these tulips springing from crosses, but in general the set designs with tulips under canopies, characteristic of so many of the American jamb stoves after 1756, and of the six-plate stoves after 1760, are unknown and unheard of as castings upon stoves in Germany.



92.

A. G. Plate of 1752.

Front plate of Jamb Stove. Size, H. 24½ x W. 20¼. Berks County Historical Society.

the familiar vaulted canopies of the pictorial plate no longer encloses a pictorial subject, but a set pattern, either half of which serves for the front plate and which appears in full on the side plate. This consists of a flower pot growing a tulip plant balanced with lozenges six-point stars and frequently what appear to be sheaves of wheat in the right canopy, and almost invariably in the left canopy a fluted circlet which may represent an aureole with divergent rays enclosing a heart from which spring several tulips and resting upon what

A tulip in a flower pot stands under each of the canopies, here supported on fluted columns, under the left vault of which, lacking the familiar aureole, the initials A G plainly appear. The heart tulips are replaced by stemmed tulips on either side of the medallion below, which shows the date 1752. But the motto on the central cartouche is rusted beyond decipherment.

For some time no replica or corresponding side plate appeared to explain this much-rusted specimen, consisting of fragments bolted together, which was found in 1909 by Mr B. F. Owen at Millbach, Lebanon County, Pa. But when, in 1913, in an old vault at Fifth and Penn streets, Reading, Pa., Mr. Owen found Figure 93, also dated 1752, plainly marked AMOS GERET, and which, judging from similarity in the treatment of the tulips, canopies and figures in the date, is undoubtedly the companion side plate, the A G was explained.

We are therefore justified in guessing that the plate was cast at Cornwall Furnace, and that GERET was one of the company Gurr't (Garret) and Co., mentioned by Acrelius as lessees of the works in 1756 (Swank, Iron and Coal, page 26).

93.

Amos Geret of 1752.

Right plate of Jamb Stove. Size, H. 24 x W. 26. Berks County Historical Society.

Found in 1913 by Mr. B. F. Owen in an old vault at the corner of Fifth and Penn streets, Reading, Pa.

This is undoubtedly the companion side-plate to the A. G. plate of 1752, Figure 92, as is proved by the similarity of date and size, the treatment of the canopies, the down-sprouting trefoil on the upper tulips and the name Amos Geret on this plate explaining the initials A. G. on the other.

Compared with all the other floral patterns here shown, the varied treatment of the branching tulips, without flower pots, under the familiar vaulted canopies in the upper panel, is peculiar. The aureole is missing altogether, but the lower tulips on bent stems flanking the date medallion, resemble those on the John Pott plate of 1751 and the Stiegel plate of 1758, Figures 89 and 119.

According to Acrelius, quoted by Pearse, 218, Gurret & Co. (Garret & Co.), were lessees of Cornwall Furnace in Lebanon County from the Grubbs in 1759, and if the Amos Geret and A. G. may be referred to the head of that firm, this plate and Figure 92 must have been cast at Cornwall Furnace. The inscription begun or ended with the illegible words on Figure 92 repeats that upon Figure 89, namely, DAS. LEBEN. JESU. WAR. EIN. LICHT. "The life of Jesus was a light."

94.

Samuel Flower of 1754.

Front plate of five-plate stove. Size, W. 19¾ x H. 24. Bucks

appears to be a stand formed of the heads and forelegs of sheep.

The central panel or cartouche is a narrow band or stripe, enclosing the inscription in a single line of well-modeled Latin letters. Though nearly always a verse from the Bible, or religious motto, this inscription sometimes advertises the name of a furnace or the full name or initials of one or more iron masters. Sometimes the inscription, incomplete upon the side plates, but nearly always (see Figure 139) repeated upon them, is continued upon the front plate, or more rarely and occasionally in rhyme, extends into the lower panel. This latter encloses an oblong medallion, sometimes framing the date, sometimes the advertisement or continued inscription above mentioned, and generally flanked with tulips springing from hearts.

The whole pattern, far more carefully carved than the old pictorial designs, is filled in with lozenges, wheat sheaves, six-point stars, hearts and tulips large and small, and letters or figures adorned with sprouting

County Historical Society. Given to the Society in October, 1910, by Lewis Sigafoos, of Tinicum Township, Bucks County, Pa.

Under two vaulted canopies supported on the usual twisted columns, with pendant loops, stand two flower pots containing tulips, while the words SAMEL. FLAUR (Samuel Flower), spaced with little tulips, fill the central cartouche. The date 1754, divided by a potted tulip, occupies the medallion below.

Flower here discards the usual religious inscription upon the central cartouche for an advertisement of his own name, as he did later in 1764 on his six-plate stove, Figure 156, and as Huber and Stiegel, see Figures 95 and 119 to 128, did at Elizabeth Furnace.

The other noticeable features of this plate are the heart tulips set upside down, flanking the date medallion, and the eight-pointed stars in the upper canopies, which, judging from the circular welts surrounding them, do not appear to have been carved in the regular manner on a wooden mould, but must either have been inserted into the latter out of level, or stamped loose upon the sand.

Who carved the mould for this plate may never be known, but that the cast was made at Branson and Nutts ancient furnace, of Redding, in northern Chester County, Pa., there can be little doubt. Samuel Flower married in 1744 Rebecca Branson, daughter of Redding's original owner, William Branson, received then from Branson a fourth share of the furnace, and probably managed it in 1754 and during the later life of his father-in-law, who died in 1760.

95.

Jacob Huber of 1755.

Right plate. Size, about H. 24 x W. 26. In the cloister at Ephrata, 1909.

Double canopy, twisted columns, tulips, flower pots, stars, lozenges and aureole on the left, with sheep legs as usual. The date medallion is flanked by the usual heart tulips, and contains the date 1755. Two features of the design are remarkable: First, as in the case of the Treasure plate, Figure 113, probably carved by the same hand, the letter V, possibly standing for the name of the unknown mould carver, fills the heart in the aureole; and second, the religious or admonitory inscription is here supplemented by the advertisement of Hans Jacob Huber, ironmaster at Elizabeth Furnace, where the plate was undoubtedly cast (see Figure 127), viz.: JACOB. HUBER. IST. DER. ERSTE. "Jacob Huber is the first," which fills the central cartouche.

If the mould carver, working for an employer who probably cared more for the profitable sale of the stoves than the decoration, had continued the inscription all around the stove so as to begin it on one side plate and end it on another, he would have had to carve three moulds for a jamb stove instead of two. But whether he did so in this instance or not cannot be known, since no front plate has yet been found, and we cannot tell whether Mr. Doster's replica, referred to below, with its rims sawed off, is a right or left. But it is more probable that the final words of the inscription have been crowded upon the front plate, since the evidence thus far found where the side plates, whether right or left, are nearly always replicas, inscription and all, shows that he only carved two, the larger for the side and the smaller for the front plate.

According to J. M. Swank, Iron and Coal in Pennsylvania, 1878, page 19, Hans (or John) Jacob Huber (called John by the author), who founded Elizabeth Furnace in Lancaster County in 1750 and sold it to his father-in-law, the so-called Baron Henry William Stiegel, in 1757, had the rhyme "(John) Jacob Huber. ist. Der. Erste. Deutsche. Mann. der. das. Eisen. werk. vollfuren. kann." inscribed upon the wall of the furnace. Therefore we may infer that one of the missing plates of this stove, not yet found, may complete this or a similar trade rhyme.

Many of the old German stove-plates of the 17th century, as figured by Kassel, Bickell and Wedding, show advertisements of furnaces, or names or initials of founders, ironmasters or pattern carvers, intermixed with the religious pictures and inscriptions, but here the pious inscription has been entirely discarded for the name of the ironmaster. The same substitution of advertisement for religious inscription upon the central cartouche appears on the plates, Figures 119 to 128, of Stiegel, who, in no case yet found, has retained any religious motto or rhyme whatever upon his stoves. But we cannot, on our evidence, yet say that either Huber or Stiegel thus began to spoil the religious stoves, since John Potts, of Warwick, of the undated plate, Figure 114, and Samuel Flower, of Redding Furnace, in 1754 (see Figure 94), have done the same thing.

Mr. J. H. Doster, at Lititz, has a replica of this plate built in the wall of his dining room with a replica of the Stiegel plate, Figure 121, but no front plate has yet appeared to complete the inscription. If Huber means to boast that he was the first German ironmaster in America, he may be right, for, although all the five-plate stoves were inscribed in German, and doubtless carved by German mould makers, the early ironmasters seem to have been English.

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tulips. Though suggested by the designs on Figures 89, 90 and 91 (of 1751), 92 and 93 (of 1752) and 94 (of 1754), it first clearly appears on the plate shown in Figure 95, dated 1755, before which time no certain evidence of its existence has yet come to light.

What the design, repeated on so many of the illustrations herewith shown signifies, who invented it, what furnace first produced it, and why so many of them, as the illustrations show, rivaled each other in producing without directly recasting it, and why they abandoned the more interesting picture designs to make this, and almost nothing else, between the years 1756 and 1760, or during the last few years of the existence of the five-plate stove, are still unanswered questions.

Its most interesting feature is the fluted circlet, with its heart tulips and sheep legs above referred to, which, with two exceptions

On the other hand, a similar rhyme not yet found on a stoveplate, but ascribed by Swank and others to Stiegel, also ironmaster at Elizabeth in 1757 to 1778, "Baron Stiegel ist der Mann der die Oefen machen kann," "Baron Stiegel is the man who can make stoves," appears less justified by fact, since the six- and ten-plate stoves made by Stiegel do not appear to be superior to those built at other furnaces, while the five-plate stoves had been cast in the usual way long before Stiegel's time.

96.

S. F. of 1756.

Left plate. Size, W. 22 x H. 21. Bucks County Historical Society, No. 237.

Typical floral pattern, double canopy, twisted columns, flower pot, and aureole with sheep legs, lozenges and wheat sheaves.

The unknown patternmaker who carved this design for Samuel Flower, of Redding Furnace, in 1756, probably also carved the floral pattern, Figure 111, for Thomas Potts in 1758, since, as he no doubt intended to quote Romans 12:21, in Luther's Bible: "Las dich nicht das bese uberwinden," "Be not overcome of evil," he has, in both cases, misplaced the word "nicht" so that his inscription here reads: "LAS. DICH. DAS. BESE. NICHT."

Two front plates have been found, but unfortunately the word "ueberwinden," which should finish the inscription, has been rusted beyond recognition on both.

The plate is illustrated in "Decorated Stove Plates," page 14, and since finding it in 1897, in the damp cellar of a house on the summit of the high cliffs overlooking the Delaware River in Nockamixon Township, Bucks County, Pa., a top and bottom, right and front, equally illegible (set up with this plate, see Figure 97), from an old house in Doylestown, Bucks County, Pa., have come to light.

The finding of the nearly complete six-plate stove, Figure 156, dated 1764, and inscribed:

SAMUEL. FLOWER. RETING. FURNACE.

and the six-plate stoveplate dated 1764, Figure 160, inscribed:

M. SAMUEL. FLOR. REDIG. FURNACE.,

make it probable that the initials S. F. on this plate and on the front plate, Figure 99, refer to Samuel Flower, one of the ironmasters at Redding Furnace in 1756 and later. According to Swank (Iron in All Ages, page 173), Samuel Flower became associated with Redding Furnace in 1742, when he as a member of an English company, together with Lynford Lardner and Richard Hockley, leased its companion forge, Windsor (on Conestoga Creek, Lancaster County, Pa.), from William Branson, for thirty years. In 1744 Flower married Branson's daughter, Rebecca, and together with Lardner and Hockley, who had married two other daughters of Branson, received from the old ironmaster a quarter share of Redding Furnace. Although, according to Acrelius, Branson held Redding in 1756, Flower, no doubt, managed it for him in that year, as the stove-plate shows, and must have had charge for some time previously, as is proved by the front plate inscribed with his name and dated 1754, Figure 94, while that he certainly managed the furnace after Branson's death in 1760, the later inscribed plates, Figures 156 and 160, prove.

97.

Replicas are known as follows:

1. Right; Col. H. D. Paxson, August, 1910.
2. Right; Yard pavement at Isaac Bennet's, 1910, at Johnsville, Bucks County, Pa.
3. Right; Bucks County Historical Society, from Snodgrass house, Doylestown, above noted.
4. Left; Mrs. Walter Cope, Germantown, Pa., December, 1910, bought by her of Mrs. Cookerow, at Pottstown, Pa.
5. Mr. B. F. Fackenthal, Jr., Reigelsville, Pa., September, 1911, obtained from Mr. Friesland, a photographer, in New Jersey.
6. Left; Bucks County Historical Society.

98.

Judge Not of 1756.

Left Plate. Size, H. 24 by W. 25½. Bucks County Historical Society, No. 709.

The pleased eye wanders from the hearts, tulips, stars, medallions, arches and columns of the usual floral pattern to the words, RICHTET. NICHT. AUF. DAS. IHR., "Judge not that ye," running its sequence NICHT. GERICHTET. WERT., "Be not judged," from Matthew 7-1, in Luther's Bible, upon Figure 99.

Because of the peculiar trefoil sprouting horizontally from the four corners of the date medallion, on this plate, and also on Figure 99, and which are only thus once duplicated in the whole collection, and notwithstanding numerous other differences in the detail of sheeps' heads, flower pots and lozenges, we must regard Figure 99 as its companion front plate.

Figure 98 was found by Captain J. S. Bailey about 1890 at an old farmhouse belonging to Clinton Callender, near Mechanics Valley, Bucks County, Pa., and was described in "Decorated Stove Plates," page 7.

99.

Judge Not of S. F.

Front plate. Size, H. 24 x W. 21. Bucks County Historical Society, No. 1244.

So completely had the memory of five-plate stoves passed out of general knowledge, that Mr. Emery, himself a collector of antiquities, had for many years lived within a few steps of this plate, without knowing of its existence, when in 1897, he led the writer, on inquiry, to T. Sassaman's outkitchen, at Ottsville, Bucks County, Pa., and found to his surprise this beautiful plate, together with Figure 89, buried under several inches of wood ashes, on the hearth of a large fireplace, used for soap and applebutter cooking.

Within the double vaulted canopy, with its pendant loops and twisted columns, rests the usual symbolic aureole, enclosing a heart sprouting three tulips, and flanked by two flower pots with tulips. Larger tulips fill the spaces below the vaults, and the lower medallion enclosing the initials S. F., is filled in with tulips, and flanked with heart tulips. But the sheep's heads below the aureole are round, unmodelled lumps, and there are no stars or lozenges in the pattern.

The inscription in the central cartouche, "NICHT. GERICHTET. WERT," "Be not judged," from Matthew 7-1, in Luther's Bible, completes the sentence, RICHTET. NICHT. AUF. DAS. IHR., "Judge not that ye," begun on Figure 98, which, as supposed in "Decorated Stove Plates," page 7, may be its companion plate, notwithstanding many notable differences in the treatment of the tulips, aureole, sheeps' heads and flower pots. But the initials S. F. doubtless stand for Samuel Flower, and for the reasons given under Figure 96 we would ascribe the plate to Redding Furnace, under Flower's management in 1756.

100.

The Wicked Borrower.

Left plate. Size, H. 23 x W. 23¾. Bucks County Historical Society.

Floral pattern, with double canopy, twisted columns, flowerpot, grain sheaves, etc., with the words RETDING. FORNES. in the lower medallion. The inscription in the central cartouche reads: DER. GOTLOSE. BORGET. UND., from Psalms 37: 21, in Luther's translation, "The wicked borroweth and." The words BEZAHLET. NICHT., "payeth not again," remaining to complete the quotation on the front plate of the stove, which has not yet been found.

Though based upon the evidence of the six-plate stove plates, Figures 156 and 160, we may infer that the plates, Figures 95 and 99, marked S. F., were cast at Redding Furnace under Samuel Flower as ironmaster, we cannot assert that this plate,

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(Figures 119 and 121) invariably fills the left canopy in the upper panel, and frequently appears in the single canopy of the front plates. The author has been unable thus far to find its counterpart among the potters' designs or illuminated writing of the Pennsylvania Germans, and all attempts to explain it by any known religious symbolism or to trace it singly or in combination with the whole pattern above noted to Europe have failed.

Following the introduction of the tulip into Europe by Conrad Gesner in 1559, decorative designs developed from tulips became common among the European peasantry, as painted upon houses, designed upon fabrics or pottery or as decorations on household

101.

though made at Redding, was cast for Flower, until its missing front plate shall show it. The pattern described wrongly as belonging to a six-plate stove, see "Decorated Stove Plates," page 26, was first seen by the writer in 1899 in an old chicken-house, at the colonial residence of James Logan, known as Stenton, near Philadelphia. The right replica, Figure 101, appeared ten years later at a junk yard in Pottstown, and a third right replica was plowed out of a field near a spring house on the property of Mr. John Schweitzer, of North Earl Township, Lancaster County, Pa., and there found in the summer of 1909 in the barnyard by Mr. B. F. Owen, of Reading, who gave it to the Berks County Historical Society. A fourth right replica (fragment of lower right corner) was found by Mr. A. K. Hostetter in possession of Mr. D. B. Landis, near Lancaster, Pa.

The ancient charcoal furnace of Redding, built 1736, abandoned about 1783, on French Creek in the (magnetic) iron ore region of the Schuylkill Valley, originally Coventry, now Warwick Township, Northern Chester County (not named after or associated with the town of Reading, Berks County, but originally from the English Reading and about ten years before the American town of Reading was founded), was built (according to Swank, Iron in All Ages; James, The Potts Memorial; and Futhey and Cope, History of Chester County), by Samuel Nutt and William Branson in 1736-7 as a close neighbor and source of pig-iron supply to their well-known Coventry Forge, also built by Nutt and Branson about 1718.

But because the Potts Manuscript Coventry Forge Ledgers note the sale of stoves necessarily made at a furnace and not at a forge, between 1728 and 1738, because in 1728 and 1729 they several times refer to a furnace, called twice by name, Christien or Christeen Furnace, associated with Coventry Forge, and because the inventory of Samuel Nutt's will in 1737 (History of Chester County F. and C.) refers to an "old furnace" and a "new furnace," it follows that Redding Furnace, built in 1737, was not the original or only furnace on that site, but that there were two furnaces there, an older called Christeen, and a later one called Redding, both built by Nutt and Branson about a mile apart (James, page 49), and near the lost site of Coventry Forge.

Not possessed of this information in the Potts' Manuscripts, Swank, page 71, and Mrs. James, page 51, who had supposed that the first furnace was called Redding and was abandoned in 1726, when the second was built, had necessarily given no evidence of either fact, but that the second furnace called Redding (in a road petition 1736, in an agreement of partnership 1736, on Scull's Map 1756, and by Acrelius 1756; see Swank, James and the History of Chester County), was officially so named, there is no doubt.

Samuel Nutt, who owned half of the furnace and Forge property at Christine—Redding—Coventry, died in 1737, and the new furnace was erected by Anna Nutt, his wife, and Samuel Nutt, Jr., his son-in-law and nephew, and his old partner William Branson, and managed by agreement of March 15, 1726, by John Potts (Swank, page 171).

For several years, therefore, Redding (including its predecessor, Christine) possibly sometimes called Coventry Furnace, was the only furnace in the Mid-Schuylkill, French Creek iron region, on the right bank, and the only rival of the neighboring older Colebrookdale Furnace, of Rutter and Potts ownership, on the left (Manatawny Creek) bank. Then the partners disagreed, quarreled at law and separated, when Branson remained at Redding and Christine, and the Nutt heirs built the rival Warwick Furnace ten miles away on another (the south) branch of French Creek in 1738, while Thomas Potts founded Mt. Pleasant across the river near Colebrookdale in the same year. William Branson was in possession of Redding in 1742 (Swank, page 173), between 1750 and 1756, according to Acrelius (Swank, page 174), and probably until his death in 1760. Leaving four daughters, but no sons, he had given quarter shares of Redding Furnace and Coventry Forge to three of his sons-in-law, one of whom, Samuel Flower, married Branson's daughter Rebecca, in 1744. Flower probably managed Redding Furnace for his father-in-law in 1756, and certainly after 1760, as his initials appear on the Redding plate, Figure 96, dated 1756, and his name on Figures 156 and 160, dated 1764. In 1772, and for a long time after, according to Swank, Iron in All Ages, page 180, Redding was managed or leased by James Old, but was at last absorbed by its old rival Warwick, and soon after the owners of the latter, Rutter and Potts, bought it in 1778 to 1783, and when noticed by the German traveler, Schoep, in 1783 (Swank, page 187), it had fallen into decay and was abandoned (History of Chester County, F. and C., page 345).

102.

The Raging Year.

Right plate. Size, W. 28 x H. 26. Bucks County Historical Society, No. 711.

Found by Mr. I. J. Stover in use as a step set in a path near the house of Mrs. Anna Hoffman, near New Britain, Bucks County, Pa., in 1897.

No replica of this very symmetrical and carefully carved floral pattern has yet been found, nor a companion front plate, which would enable us to complete the unexplained inscription which fills the central cartouche above the date 1756, namely: DIS. IST. DAS. IAHR. DARIN. WITET., "This is the year in which rages ——."

103.

Treasure of 1757.

Left plate. Size, about W. 24 x H. 24. Mr. George H. Danner, Manheim, Pa. Described in "Decorated Stove Plates," Figure 23.

This variation of the usual floral pattern shows the date 1757, and the motto, from Matthew 6-21 and Luke 12-34, in Luther's Bible, WO. EUER. SCHATZ. IST. DA., "Where your treasure is there,"—which must be continued on a lost front plate with the words IST. AUCH. EUER. HERZ., "will your heart be also."

While this is the third plate with the treasure inscription thus far found, it differs widely from the treasure pattern of John Potts, Figure 113. On the other hand, save for the date, it is an exact replica of Figure 104.

104.

Treasure of 1758.

Right plate. Size, W. 24 x H. 24. State Library, Harrisburg, Pa.

Here we have, with its broken inscription from Matthew 6-21, an exact replica of Figure 103, save for the last figure of the date, 1758, which has been changed from 7 to 8, possibly by erasing the original sand impression and re-stamping with a loose stamp.

According to Kassel, the practice of re-dating stove patterns had been common in Germany, but strange to say this is the only instance of it thus far found among the American plates. The repetition of warp cracks on replicas of a given date, proves, in many instances, that the patterns must have been used for a longer time than the twelve months indicated, and we are left to suppose that the furnaces continued to use the old patterns, without re-dating them to suit passing years.

105.

Hereford of 1757.

Right plate. Size about H. 25 x W. 26½. Col. H. D. Paxson, Holicong, Pa.

The plate with the usual central cartouche clearly showing the inscription W. HEREFORD. FURNACE. M., and with the date, 1757, set in the usual manner in the medallion below, and thus far resembling the set floral patterns cast at this time, differs markedly from the latter in the upper panel, where, under a double canopy on twisted columns, the usual arrangement of aureole, flower pots, wheat-sheaf and lozenges is replaced by a widened spray of three tulips, a meaningless cornice, two six-pointed stars and several scrolls.

Hereford Furnace, on the west branch of Perkiomen Creek, in Hereford Township, Berks County, Pa., was in existence, according to Fegley (in "Old Charcoal Furnaces in Eastern Berks County"), in 1753.

The ten-plate stove, Figure 180, is marked with the name Hereford, so is the six-plate pattern of Figure 169, showing a still greater weakness of design. Both these plates show the name, Thomas Maybury, in full, but here we have W. M., standing probably for William Maybury, father or relative of the former, and according to Mr. B. F. Owen, one of the shareholders of Shearwell Furnace at Oley in 1760, and one of the first Justices of the Peace in Berks County, Pa.

Left replica in possession of Mrs. A. Haller Gross, Langhorne, Bucks County, Pa., May, 1913.

106.

Stigel of 1758.

Right plate. Size, H. 23 x W. 25. Bucks County Historical Society.

Though the details are nearly obliterated by rust, we see that this floral pattern of the usual set type, with double canopy, twisted arches, flower pots, aureole on the left, heart tulips, medallion with the date 1758, and illegible inscription, showing the letters LMS to the right is a replica of the Stegel plate, Figure 120. It proves that an abundance of these typical floral patterns had been carved in wood as moulds closely resembling, but never reproducing each other, all of which, strange to say, whether once in the possession of the old furnaces, or remaining among the heirlooms of the unknown families of the forgotten pattern carvers, seem to have been lost.

This plate, together with three more plates of Jamb stoves, and one of a draught stove in three fragments (see description of Figure 144), had been laid across two rows of stones, under the sod, so as to roof a drain for the porch pump in the front yard of Dr. Frank Shirk's farm, near Lancaster, Pa. There the writer, in company with Mr. Albert K. Hostetter, excavated it on January 11, 1909.

107.

Despise Not Old Age.

Right plate. Size, H. 22¼ x W. 24¼. Bucks County Historical Society.

Twisted columns, double canopies, flower pots, and aureole of the usual floral pattern, in the background of which the I. P. and S. P., probably standing for the noted John Potts (son of Thomas Potts, born 1710, died at Pottsgrove, 1768), and Samuel Potts (his son, born 1736, died 1793), ironmasters at Warwick Furnace in 1758, are cast upon the background under the right canopy. The date 1758, alerned in the usual way with tulips, is cast in the lower medallion, and the central cartouche is filled with the motto: VERACHTE. DAS. ALTER. NI. "Never despise old age." Identified by Dr. John B. Stout, of Northampton, Pa., as from the motto, Verachte das alter nicht denn du gedenkest auch alt zu werden, "Despise not old age, since thou rememberest that thou also shalt grow old," published on page 139 in the Lesebuch fur Deutsche Schulkinder, by George Gottfried Otterbein (printed by Conrad Zeiter and George Mentz, Philadelphia, 1813, second American edition), and quoted from the Apocryphal book of Jesus Sirach.

108.

The badly rusted plate, broken in two pieces, came to light as a surprise during an unsuccessful hunt for a lost plate said to have been dated 1674, mentioned in Davis' History of Bucks County, page 432. When, after searching several old houses at Chalfont, Montgomery County, Pa., in 1909, the last clue in the memory of a nurse at a farmhouse had failed, the farmer's wife, hearing the writer's questions, remembered an iron plate used in her girlhood at another farm as a step to a spring-house. On immediately searching the latter place, which had since changed owners, and where the step in question had been moved, a search in the garret of an old spring-house used for smoking ham, notwithstanding the owner's ignorance of the matter, resulted in the discovery of the plate buried under nearly a foot of wood ashes in a large wooden ash box set in mid-floor as a hearth.

Replicas have appeared as follows. (1); right, as described in "Decorated Stove Plates," page 26, in the cellar of Mr. Walter Cope's house, in Germantown, Pa., in 1899, in possession, 1912, of Mrs. Albert Leeds, Germantown. (2); left fragment, see Figure 109, bought by the writer at a junk-yard at Pottstown, in 1908. (3); left (fragment), found by Mr. B. F. Owen, January, 1910, in the old cloister at Ephrata. (4); right, Mr. H. E. Deats, Flemington, N. J., see Figure 108. (5); left, together with front plate (see Figure 110), in possession of Mr. H. E. Deats, Flemington, N. J.

There is no reason for connecting this plate with Christopher Sauer, as the writer has done in "Decorated Stove Plates." The initials I.P., associated with the name IAHN. POT. on Figures 90 and 91, and the complimentary S. P., un-

109.

doubtedly refer this plate, cast in 1758, as above noted, to the Potts family of ironmasters, who owned Warwick and several other furnaces at that time. In other examples of their initials the letter A sprouts tulips, as do also the sheep heads. The star within the heart in the aureole is a peculiar variation.

110.

Despise Not Old Age.

Front plate. Size, H. 22½ x W. 19 inches. Mr. H. E. Deats, Flemington, N. J.

The pattern, inscription and history of this plate obtained with its companion, Figure 108, by Mr. Deats in 1910 from a widow of Flemington, N. J., whose husband, Andrew Crater, had bought both plates at a sale near Frenchtown, N. J., about 1880, show that it is the long sought for front plate of Figures 107 and 109. Two flower-pots with tulips and the usual vaulted canopy, stand between the figures and the date, 1758; and the well-known name of IAHN. POT., John Potts, beautifully carved and adorned with tulips, fills the lower medallion, while the words, long baffling decipherment, DAN. WIR. GEDEN., "since we remember," fill the central cartouche.

As noted under Figure 107, Dr. John Bear Stoudt, of Northampton, Pa., traced the inscription, there begun and here continued, to a motto in Otterbeins Lese-buch Fur Schulkinder, and it would seem that we have here an adaptation, continued on this front plate in the plural, of the sentence from Otterbein begun on the left plate, Figure 108, and should therefore expect to find on the companion right plate the words KEN. AUCH. ALT. ZU. WERDEN., showing that three moulds rather than two had been used to make the stove. But the right plate, in the possession of Mr. Deats, and the right fragment here shown, Figure 109, does not so complete the quotation, and is a replica of the left plate, Figure 108, so that we are left to suppose, either that the caster had several times stupidly used the left mould to cast the right plate, or that the carver had neglected to carve, or the furnace had refused to buy, the extra pattern with the final inscription required to finish the sentence.

111.

Good for Evil of 1758.

Right plate. Size, H. 24¼ x W. 25¾. In possession of Mr. J. L. Heacock, of 115 West Tulpehocken Street, Germantown, Pa., Fig. 112. Right. Bucks County Historical Society.

This plate, showing the usual floral pattern, peculiar in having a wheat sheaf set within the aureole heart, is a replica of Figure 112, and was found by Mr. Heacock in an old farmhouse belonging to his family, near Rich Hill, about five miles southwest of Quakertown, in 1910.

The same inscription, from Romans 12-21, in Luther's Bible, but slightly transposed, and incomplete, upon the side plate, LAS. DICH. DAS. BESSE. NICHT., "Be not overcome

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furniture and utensils, in Germany, France, Holland, Transylvania and Scandinavia. But notwithstanding this fact, according to information given the writer from Museums at Cologne, Marburg, Amsterdam, Stockholm, Nancy and Christiania, this particular pattern appears to be unknown in Central and Northern Europe. Dr. Beck and Dr. Kassel never

of evil," with the word UBERWUNDEN, "overcome," probably cast on the missing front plate, occurs on the S. F. plate, Figure 96, dated two years earlier, in 1756.

The date 1758, much rusted, on the replica, Figure 112, is here easily seen above the name of the ironmaster, THOMAS. POTS., to which the German mould carver has added a final S, which does not appear in any other spellings of the name on the Jamb stoves thus far found. This name, highly adorned with sprouting tulips and set under the date 1758, indicates that the plate was cast probably at Colebrookdale.

The noted family of Potts, whose names so often appear on the floral patterns here shown, descendants of Thomas Potts, of Germantown (1680-1752), founders of Pottstown (not Pottsville), Pa., by their intermarriages in the 18th century with heiresses of the Nutt and Rutter family, became masters or part owners of several forges, together with the principal ancient furnaces in the iron-bearing region of the Mid-Schuylkill Valley, namely, Colebrookdale and Popadickon, (or Pottsgrove or Pottstown) Furnaces on the Manatawny Creek on the left bank, and Coventry Forge, Warwick and Mount Pleasant Furnaces in the French Creek region, on the right bank of the river.

112.

According to disjointed statements in the Potts Memorial, by Mrs. Potts James, Iron in All Ages, by J. M. Swank, and in the History of Chester County, by Futhey and Cope, there were three persons by the name of Thomas Potts concerned in the iron works of Pennsylvania, at the time of the making of decorated stoves, namely, 1, Thomas Potts (called Junior, and nephew of a Welsh emigrant called Thomas Potts), born 1680, probably in Wales, and the founder of the American Potts family of ironmasters. Brought up among Germans in Germantown, Pa. He married, first, in 1699, Martha Kerlis, and second, about 1718, Magdalen Robeson, leaving a numerous family of children. He was Sheriff of Germantown in 1702, concerned with Thomas Rutter (the first ironmaster of Pennsylvania), and a company, in building Colebrookdale Furnace in 1720, was shareholder and probably manager at Colebrookdale after Rutter's death in 1728, partner at the rebuilding of the furnace in 1731 to 1736, and founder of Mt. Pleasant Furnace in 1738, but could not be the person referred to on the plate, since he died at Colebrookdale in 1752, six years before the plate was cast (when in an inventory of his will six stoves and some odd plates, valued at 20 pounds, are mentioned).

Neither is it probable that the person here referred to is 2, Thomas Potts, son of John Potts, born at Colebrookdale in 1735 and who died in 1785. In 1757 this Thomas married his cousin Rebecca Nutt, heiress of part of the Nutt iron property on French Creek, Chester County, Pa., after which he managed Coventry Forge on buying out the interest of Robert Grace. He was an original member of the American Philosophical Society in 1758, lived at a house called Pottsgrove, near Pottstown, was a member of Assembly for Philadelphia in 1775, a Colonel of the American Army in the Revolutionary War, concerned in the discovery and utilization of anthracite coal about 1784, in the Pennsylvania Legislature in 1785, died in 1785, and was buried at the family graveyard at Coventry. But because Samuel Flower, whose name and initials appear in 1756 and 1764 on stove plates cast at Redding Furnace (associated with Coventry Forge nearby), namely, Figures 96, 156 and 160, was no doubt manager of Redding in 1758, and because John Potts, Senior, or his sons John and Samuel, and not Thomas, were managing Warwick Furnace in 1758, and because the initials I. P. and S. P., for John and Samuel Potts, appear on the plate, Figure 108, dated 1758, probably cast at Warwick, we may infer that this Thomas Potts—who would have made the plate either at Redding or at Warwick, if at all, had nothing to do with it, but that it was cast rather by

3. Thomas Potts, son of (1) Thomas Potts, the Welsh ancestor, and uncle of (2), born about 1721, and died in 176?. This Thomas Potts was brother of John Potts, the founder of Pottstown, and after 1752 may have inherited a share of Mt. Pleasant Furnace from his father. But having married in 1742 Rebecca Rutter, heiress of part of the Rutter property at Colebrookdale, many of his interests lay at the latter furnace, of which he was a shareholder in 1742, and two-thirds owner in 1752 at his father's death. Because the plate would not probably have been cast at Redding or Warwick Furnace by one named Thomas Potts, in 1758, and because Colebrookdale Furnace was and Mt. Pleasant furnace may have been in blast in 1758, and the former then managed by this Thomas Potts and his brother-in-law, Thomas Rutter, whose name is on the Colebrookdale plate, Figure 115, of the same year, we infer that this plate was cast either at Mt. Pleasant or Colebrookdale furnace, by the Thomas Potts in question.

Whoever designed Figure 111 followed very closely the whole upper panel of the Treasure plate of Jahn Pot, Figure 113, but he did not reproduce it by re-casting from the same model. Otherwise, the variance in the fluting of the flower pots, wheat sheaves, column twists and heart in the aureole, would not appepar. The two plates indicate two wood-carvings made from one design or drawing, probably by the same hand,

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heard of it. Owing to the sheep heads, we can see no suggestion of it in the description of the Ark of the Covenant, as explained in Exodus 25: 10, and if, according to Mr. George von Collin, of Hanover,[2] it might have been derived from decorative paintings on chests brought to America by emigrants in the 18th century, no such chest or painting has been found.

The Popadickon (Pottsgrove) and Mt. Pleasant ledgers in 1743-4-5 speak of "Carved Stoves," which may refer to this pattern, but whatever furnace first produced it, it was immediately adopted, though never recast, by rival furnaces, and although it might have been easy to make a new stove from an old one by reproducing the iron original, no evidence of such pilfering or plagiarism has yet

for the two ironmasters, Thomas and John Potts, as brothers owning neighboring furnaces, rather than that one carving was altered by re-piecing and used twice.

Figure 111, in possession of Mr. J. L. Heacock, August 23, 1910, was found by him at the Heacock farm in Rockhill Township, near Rich Hill, Bucks County, Pa. Figure 112 was bought by the writer at a junk yard in Pottstown in 1909.

113.

Treasure of Jahn Pot.

Right plate. Size, H. 23¼ x W. 26. B. H. S.

The typical floral pattern, double canopy, twisted columns, flower pots, tulips, grain sheaf, eight point stars, chequered lozenges, pendant scallops and aureole with sheep legs on the left.

Tulips sprout from the letters A. H. N. and O. in the name IAHN. POT. (for John Potts), probably the founder of Pottstown (not Pottsville), born 1710, died 1762, and long ironmaster at Warwick Furnace, where the plate was probably cast about 1758 (see Figure 110). The inscription from the Sermon on the Mount, Matt. 6-21, Luke 12-34, in Luther's Bible, WO. EUER. SCHAZ. IST. DA. IST. "Where your treasure is, there is———" fills the central cartouche.

No front plate has yet been found to complete the celebrated sentence with the words AUCH. EUER. HERZ. "Also your heart," as also in the case of the side plate, Figure 103, where the Treasure legend, "For where your treasure is there will your heart be also," likewise appears incomplete.

The unexplained letter V, placed within the heart of the aureole, has no counterpart in the whole collection, save in the case of the Huber plate, Figure 95. On the other hand, the round-based U, in the word EUER, does not appear on any other five-plate stove inscription yet seen, except in the German plates, Figures 20, 22, in Figures 31 and 38 of possible German make, and Figure 98.

The plate was bought at Boon's antique store, in Pottstown, in 1907. Left replica, Hon. S. W. Pennypacker, at Schwenksville. Right replica, Col. H. D. Paxson, Holicong, Pa., June, 1911.

114.

Company of I. P.

Size, H. 23¼ x W. 19. Berks County Historical Society.

Found by Mr. B. F. Owen in an old house in Millbach in Berks County, Pa., in 1910. The rust has almost obliterated the aureole and details of the familiar floral pattern, with the words UND. COMPAGNI. and the initials I. P., probably standing for John Potts, the ironmaster, in the lower medallion.

As John Potts (born 1710, died at Pottsgrove, 1768), son of Thomas Potts, was share owner or manager not only at Warwick, but also at Pottsgrove and Mount Pleasant Furnaces, this plate could not certainly be ascribed to Warwick, but it is the only instance yet found in which John Potts follows the example of Stiegel, Huber and Flower, in substituting an advertisement for the usual religious inscription on the central cartouche.

appeared. All the illustrations shown, though alike in composition, vary in details, showing that the same pattern did not appear year after year with changed date, as in Germany, and that the designs were not stolen or patched together, but invariably cast from original patterns carved for the occasion.

No proof has yet appeared that any of the five-plate stoves, however decorated, which, as explained before, were made in three sizes, ever showed the same design in more than one size; neither does it appear that any of the stoves were furnished with heat-retaining or smoke-conducting upper stories of iron or brick,[56] and with the exceptions noted at Nazareth, Pennsylvania and Winston-Salem, North Carolina (see Figures 227 and 228), no tile stove or loose stove tiles or potters' stove tile moulds, or other evidences have appeared to show that the colonists ever made these stoves after the old familiar European fashion of tiles brick or wattles smeared with clay.

115.

Thomas Rutter of 1758.

Front plate of jamb stove. Size, H. 24 x W. 20. Pennsylvania Museum, Fairmount Park, Philadelphia, Pa., Museum No., 13-61.

The treatment of the date, 1758, appearing in the medallion, and of the floral canopies with their aureole in the upper panel, suggests the handiwork of the carver of the Thomas Potts plate of 1758, Figure 111, and the William Bird plate, Figure 35. All three show a wheat sheaf in the heart of the aureole. Here the name of the ironmaster THOMAS ROTTER indicates that the plate was cast at Colebrookdale Furnace, under the management of Thomas Rutter who in this case has abandoned the religious inscription of the central cartouche for an advertisement of his own name.

116.

The Eyes of the Lord.

Left plate of five-plate stove. Size, H. 23½ x W. 26. Col. H. D. Paxson, Hollcong, Pa.

Here we have another floral pattern of the usual type, but with the emblematic aureole set not in the left canopy, but in the right. The rusty inscription, DIE. AUGEN. DES. HERRN., "The eyes of the Lord," from Psalms 34; 16 in Luther's Bible, is probably continued by the obliterated word SCHAUEN and the final words AUF. DIE. GERECHTEN., continued on the lost front plate, "The eyes of the Lord are upon the righteous."

In a much-rusted medallion below, the name Thomas plainly appears, either for Thomas Potts, or more probably Thomas Rutter, because of the isolated R, no doubt standing for Rutter, in the upper left canopy, and though the rest of the inscription on the medallion is rusted beyond decipherment, there can be little doubt but that the plate, like Figure 115, was cast at Colebrookdale Furnace.

Figure 112 is inscribed Thomas Potts, and dated 1758. As we suggested, it may have been cast at Mout Pleasant or Colebrookdale. If at the latter, here we have another plate, probably cast at the same furnace in the same year for Thomas Rutter, a coincidence explained by the fact that Rutter was Thomas Potts' brother-in-law and that the two relatives might have been managing the furnace together in the year 1758.

Thomas Rutter appears thus again on Figure 115, which also may be ascribed to Colebrookdale Furnace.

117.

The Masters of Martic.

Right plate. Size W. 26 x H. 23½. Col. H. D. Paxson, Holicong, Pa.

There can be no question that this plate, with its rusty left replica, Figure 118, and the front plate, Figure 138, all three of which came into the possession of Col. Paxson together, form parts of one and the same stove. The familiar quotation from Fsalms 65-10, GOTES. BRYNLEIN. HAT., "God's well hath"—filling the central cartouche, is completed on Figure 138, but the initials MC. TS. WS. WB. SW. in the lower medallion, remained for some time inexplicable, until finally explained by Mr. B. F. Owen in 1910. He having found by analogy with Figures 134 and 152, 153 and 164, that the letters MC. stood for Martic, learned in the records of Berks County that Martic Furnace, built in 1754 by the brothers Thomas and William Smith, was, in 1760 (the date of the front plate, Figure 138), owned by them, together with William Benet, for WB., and Samuel Webb, of Maryland, for SW., with Ferguson McIlvaine as furnace manager, the latter three having bought their shares in 1760. Notwithstanding the omission of McIlvaine's initials, this seems conclusive.

A replica in possession of the Berks County Historical Society at Reading was found by Mr. B. F. Owen in 1910, in an old house in Berks County, Pa. A broken fragment (the

118.

lower left corner) of a left replica was in possession (1912) of Mr. D. B. Landis, of Lancaster, Pa. (Information of Mr. A. C. Hostetter.)

119.

Stiegel of 1758.

Right plate. Size, H. 26 x W. 28 inches. Mr. G. H. Danner, Manheim, Pa. The broad margin to the right has been cut off in the photograph.

Much has been written of H. W. Stiegel, sometimes called Baron Stiegel, founder of Manheim, Pennsylvania (upon the rectangular model of Rhenish Manheim), constructor of its glass works and importer of its glass painters, builder of its "castle," master of its furnace, donor of land to its Lutheran church (according to his deed, "For one red rose in the month of June, given to me, or my heirs, forever when lawfully demanded"), energetic and lavish benefactor, shipwrecked investor, ruined prisoner for debt.

Stiegel, who was probably born at Cologne, and was probably not a baron (information of Mr. Luther W. Kelker, his descendant, Harrisburg, Pa., 1910), arrived in America in the ship "Nancy," from Rotterdam, in 1750 (old style), and after marrying the daughter of Johann (Hans) Jacob Huber, owner of Elizabeth Furnace on Middle Creek, Lancaster County, Pa., bought the furnace, with Charles Steadman and Alexander Steadman, of Philadelphia (who was also married to an Elizabeth), as partners, in 1757.

Of the group of dated plates of five-, six- and ten-plate stoves herewith shown, inscribed with his name, this plate, cast the year after he became ironmaster at Elizabeth Furnace, is the earliest yet found. The inscription clearly reads (in the upper panel) H. WHELM. STIEGEL. UND. (in the cartouche) COMPAGNI. FOR. ELIZABETH., and in the lower medallion the date 1758.

Although this plate, with a double canopy, aureole, tulips, cartouche and date medallion, presents the usual, familiar tulip pattern, several unique details strike us. No other plate in the whole collection has removed, as here, the legs, whether as darts or sheep, from the aureole, or, as here, sprouted tulips from the shafts of the columns, and no other plate except Figures 116, cast for Thomas Rutter, and 121, cast also for Stiegel, shows the aureole in the right canopy instead of the left.

Furthermore, Stiegel, like Amos Geret, in Figure 93, and Jahn Pot, in Figure 89, places his name in full in the background of the pattern under the canopy.

We have advertisements in Germany on stove plates of a hundred years earlier, and Flower's plate, Figure 94, and the I. P. plate, Figure 114, are devoted to advertisements in America. Figure 89 also shows that Huber, Stiegels' father-in-law and predecessor at Elizabeth Furnace, had, as above noted, abandoned the religious inscription, which had invariably marked the five-plate stove from the beginning, but the old German plates had retained the religious motive together with the advertisement, Flower and Pott had repeated it abundantly on other plates, and whether Huber, in whose name we have but a single plate, ever used a religious pattern or not, it is a remarkable fact that Stiegel has cast no religious inscriptions on any of his plates herewith shown, but has invariably substituted an advertisement of Elizabeth Furnace, or of his own name in large letters, in the date medallion, decorated background, or upon the cartouche itself.

Though the inscriptions on the five-plate stoves remain in German to the last, and though we may believe that in general the English ironmasters employed German pattern carvers, and left the mottoes and patterns to the taste of the latter, without giving much thought to the subject, Stiegel, himself a German, possibly preceded by Huber, another German, seems to have invariably interfered with the pious hand of the workman to introduce an eccentric change and abolish religion for advertisement.

DECADENCE IN DESIGN AND ABANDONMENT OF JAMB STOVES.

With the advent of the new floral pattern a change appears in the significance of the plates. The carving is better, but the religious spirit previously universal, occasionally yields to worldliness. Though quotations from Scripture frequently appear on the central cartouche, the inscriptions, still always in German, archaic, frequently abbreviated, phonetically spelled, sometimes inexplicable, and often substituting English words for their German equivalents, occasionally show advertisements in full of the names of furnaces, which though previously appearing in Germany had thus far been unknown in America.

120.

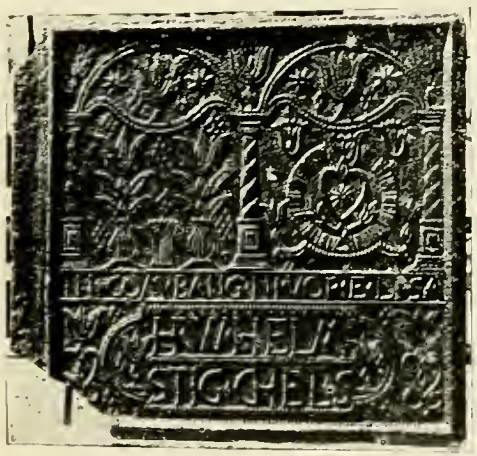
Stiegel of 1758.

Left plate of jamb stove. Size, H. 24 x W. 26. Col. H. D. Paxson, Holicong, Pa.

Above the date, 1758, in the lower medallion, the broken inscription filling the central cartouche and probably continued on the missing front plate, HENRICH. WILHELM. STI. omits the final syllable of the much-advertised name of the ironmaster.

As suggested before, the letter V inserted in the heart of the aureole on this plate, occurring on the Huber plate of 1755, Figure 95, and the Jan Pott plate, Figure 113, and appearing always in the same place, may stand for the unknown name of a mould carver.

The very rusty Figure 106 is undoubtedly a right replica of this plate.



121.

H. Wilhelm Stiegel.

Left plate. Size, H. 23¾ x W. 25¾. Col. H. D. Paxson, Holicong, Pa.

This plate is remarkable as a copy of the floral pattern, Figure 122, with eccentric variations. We have Stiegel's advertisement in the central cartouche, IN. COMBANGNI. VOR. ELISA., "In company for Eliza," with the words BETH. VORNES., "Beth Furnace," continued on the broken front plate, Figure 126, and the name H. W. HELM. STIGCHELS., H. Wilhelm Stiegel, in the lower medallion.

Thus far the plate appears to be a recast of Figure 122, but on close comparison we find that the bases of the columns here panelled lack panels in Figure 122, that the initials I. B. under the canopy in Figure 122 are here absent, that the lozenge in Figure 122, within the heart of the aureole, is here replaced by a star, and that the two smaller tulips branching from the base of the heart of the aureole present in this plate are absent in the other. Furthermore, the upper construction of the vaults, loops, canopy, tulips and lozenges, though generally similar, shows variations, while as a remarkable exception in the typical arrangement of the floral pattern the aureole appearing as usual in the left canopy in Figure 122 has here been placed by Stiegel in the right.

The plate signifies no more nor less than Figure 122, and why Stiegel went to the expense of having two patterns carved where one would have sufficed, remains unexplained.

123.

I. B. Stiegel Plate.

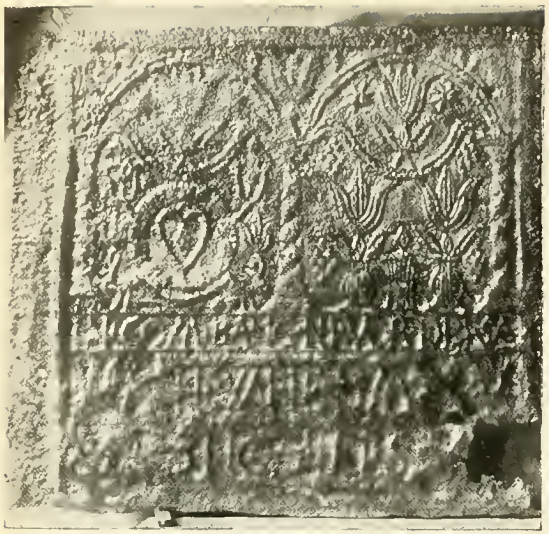
Right plate. Size, W. 25 x H. 21 inches. Senate House, Kingston-on-Hudson, New York, 1910.

In the background of the usual floral pattern and between the tulips of the right canopy, the initials I. B. appear, beneath which the inscription IN. COMBANGNI. VOR. ELISA. H. W. HELM. STIGCHELS., "In company for Elisa H. Wilhelm Stiegel," fills the cartouche and medallion.

This plate was cast in 1760, as its companion front plate so dated, found with it, and completing the inscription with the words BETH. VORNES., see Figure 126, proves.

Here again, as in his Figure 119, Stiegel abandons the usual religious motto and devotes the entire inscription, as Samuel Flower did on Figure 94, in 1754, to an advertisement of himself and his furnace.

If the initials I. B., clearly appearing on the background under the right canopy, had referred to the pattern carver, they would hardly have been deliberately erased in the left replica, Figure 123, as they appear to have been, and because



123.

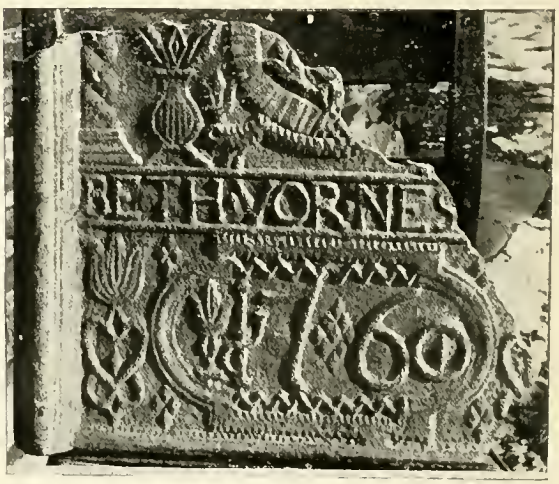
a similar erasure of the same initials appears on another Stiegel left plate, Figure 125, we may rather refer them to some original partner at Elizabeth, who had resigned from the firm.

124.

Replicas have appeared as follows: (1) Right, from an old house at Millbach, found and photographed by Mr. B. F. Owen in 1910. (2) Left, ditto. Figure 123, Bucks County Historical

125.

Society. (3) Left, Bucks County Historical Society, Figure 124, bought by the writer at Boone's, at Pottstown, 1908. (4) Left, Mr. H. K. Deisher, Kutztown, Pa., 1914, Figure 125.



126.

Fragment of Front Plate.

Size, H. 14 x W. 15. Senate House, Kingston-on-Hudson.

Above the medallion, showing the date 1760, the words BETH. VORNES. upon the cartouche, continuing the inscription, IN. COMBANGNI. VOR. ELISA., identify the plate as

Stiegel abandoned the religious motto on the central cartouche altogether. So did Huber at Elizabeth Furnace. Samuel Flower at Redding Furnace and several of the Potts iron masters place their full names or initials in the upper canopies, or the lower medallion, and numerous initials often unidentified, standing for the iron masters or carvers, appear on the floral plates during the period of the last record of their manufacture.[57]

The Potts manuscripts show that five-plate, or jamb stoves, continued to be cast or sold at Pottsgrove in 1768, and the ledger of William Smith, stove dealer in Lancaster County, and once owner of Martic Furnace, notes the sale of them in 1765, after the bank-

the companion to Figure 122, with which it is associated at Kingston, and although the inscription would serve as well for Figure 121, the fact that the square base of the twisted column of Figure 121 is here missing, classes the plate rather with Figure 122.

Three dents on the column look like the countersunk cavities for nail heads, which the mouldmaker had neglected to fill in with clay, putty or mastic.

If Dr. Sieling had seen this front plate he would not have asserted in his paper noticed in note 99, that these inscriptions, reading

UND COMPAGNI. VOR. ELIZABETH. and
IN. COMBANGNI. VOR. ELISA.,

see Figures 119, 121, 125 and 126, were cast by Stiegel in grieving memory of his deceased wife. Stiegel and his company, then Alexander and Charles Steadman, thus appear, not in mourning for Elizabeth Huber, but in an advertisement of partnership for Elizabeth Furnace, as the last word VORNES. proves. The same error appears in Forges and Furnaces, by the Colonial Dames, Philadelphia, 1914, page 121.

127.

Henrich Wilhelm Elizabeth Plate.

Left plate. Size, H. 23½ x W. 25½. Bucks County Historical Society.

Here again, as in Flower's plate, Figure 94, advertisement excludes religion. In the central cartouche, under the floral pattern with its domed canopies, aureole, flower pot, lozenges, wheat sheaves and tulips, we have, not the usual Biblical motto, but the name of the ironmaster, HEINRICH. WILHELM., for Henry William Stiegel, ironmaster at Elizabeth Furnace in 1757.

The ruins of Elizabeth Furnace, near Brinkersville, on Furnace Run, northwest branch of Middle Creek, a tributary of Conestoga Creek, in Lancaster County, Pa., mark the spot where the once celebrated iron works were founded, according to Pearse, in 1756, and according to Swank, in 1750, by John or Hans Jacob Huber, who, Swank says, adorned its smokestack with the rhyme described under Figure 95:

"Johan Huber, der erste Deutsche Mann
Der das Eisenwerk Vollfuren Kann."

Stiegel, who was probably born at Cologne, and was probably not a baron (information of Mr. Luther W. Kelker, his descendant, Harrisburg, Pa., 1910), arrived in America in the ship "Nancy," from Rotterdam, in 1750, old style, and after marrying Huber's daughter, Elizabeth, bought the furnace, with Charles Steadman and Alexander Steadman, of Philadelphia (who was also married to an Elizabeth), as partners, in 1757.

The statements in Ellis and Evans' History of Lancaster County (Philadelphia, Everts and Peck, 1883, page 303), that Stiegel made the first wood-burning stove in the province; that it was a six-plate stove, and that the latter was built in the wall and heated two rooms, are wrong and confusing; neither have we found any evidence to prove that the book is correct in asserting that Stiegel introduced or invented the ten-plate stove, which Figure 179 shows that the ironmaster, George Ross, had cast in 1765, and which Figure 185 proves, had long before existed in Holland. Unfortunately, no ten-plate stove plate with the rhyme, in the style of the smokestack rhyme of his father-in-law,

"Baron Stiegel ist der Mann,
Der die Oefen machen kann,"

which, according to Swank, page 179, was set above the oven door, has yet appeared. Mr. Danner's stove, Figure 182, cast for Stiegel and lacking this rhyme, is dated 1769.

A noticeable feature in the pattern is the fact that the sheep heads in the aureole have disappeared to give place to elongated necks ending in lozenge-shaped darts, and that the whole aureole takes a form which, with similar details, soon after appears on several six-plate stoves, and has led us to suppose, for the reasons given under Figure 160, that the Samuel Flower, Carlisle, Curtis Grubb and Eschew Evil plates, Figures 160, 162, 163 and 159, have been made by the same carver.

The words ELIZABETH FURNACE fill the lower medallion, where the word FURNACE, which replaced the German word Eisenhutten in Pennsylvania and was generally spelled phonetically FORNEC or VORNES, is here spelled in the English manner correctly.

128.

Stiegel and K.

Front of Jamb Stove. Size, W. 21½ x H. 23½. Mr. H. K. Deisher, Kutztown, Pa., November 21, 1913.

Because the inscription on the central cartouche of this plate, STIGGEL. UND. K. (Steigel und Kompagnie), which is the second companion jamb stove front thus far found, made by Stiegel, continues the advertisement begun on the side plate, Figure 127, and because all the details in the aureole, heart, dart-headed sheep, twisted columns, flower pots, tulips and soffit ornaments are similar in style, we must suppose that it is the long missing front to the latter, notwithstanding the ten-pointed stars under the arches, absent on the other pattern. The broken lower fragment of the plate preserved, set together and photographed by Mr. Deisher, shows the latest date (1765) yet found upon a jamb stove.

The only other jamb stove front in the collection made by Steigel is the fragment, Figure 126, dated 1760.

129.

Iarb Plate.

Right plate. Size, H. 22 x W. 24. Bucks County Historical Society.

Under a double canopy with twisted columns, stand two tulips in flower pots, balanced with eight-pointed stars and grain sheaves unexplained, while the initials IARB fill the space midway between tulip and columns. The inscription from Psalms 65-10, in Luther's Bible, GOTTES. BRINLEIN. HAT., "God's well hath," continued in the words WASER. DIE. FILLE., "Water in plenty," on the front plate, Figure 131, fills the cartouche above the lower medallion. The latter is adorned in the usual way and encloses the date 1759.

This plate, together with its front, Figure 132, and a duplicate in three pieces (Figure 130), together with several fragments of tops and bottoms of various five-plate stoves, placed in a long close series, had lain across two parallel rows of flat stones, just under the sod, as the roof of a pump drain, in the front yard of Mr. Shirk's farmhouse near Lancaster, Pa., where the writer excavated them with a crowbar on January 11, 1909. In the following August, the details of the pattern, badly rusted on the front plate, Figure 132, were settled by the discovery of another pair of plates, side and front in replica, by Mr. B. F. Owen, at Mr. J. E. Illig's old house at Millbach, in Lebanon County, Pa.

130.

ruptcy sale of Martic Furnace. The last plates of a five-plate stove in the collection (Figures 135 and 128) are dated 1763 and 1765, respectively, and this brings us to the end of the manufacture of these stoves in Pennsylvania, which had thus lasted about forty-eight years, or from 1720 to 1768.

During this time, before the discovery of American coal, or the appearance of cooking stoves, when all cooking was done in the open fire, it may be said in general that these decorated iron boxes were the chief, if not the only, house-warming stoves existing in the colonies.

Though never heard of among the English population in New England or the South, there is no doubt that the English colonists in Pennsylvania frequently used them, particularly in Philadelphia and Germantown. But the inscriptions were nearly always in German, (See figure 88-b) and they appealed chiefly to the German colonists, who had long been familiar with them in Germany, rather than to the English settlers, who had never heard of them in England, and who maintained their ancestral preference for the open fire.

This blaze of logs upon the open hearth, which, with the superabundant wood, was

131.

Iarb Front Plate.

Size, 22 x 18. Berks County Historical Society.

Two flower pots with tulips under a double canopy of twisted columns balanced with diamonds and the initials IARB. The cartouche below contains the end of the inscription from Psalms 65-10, in Luther's Bible, WASER. DIE. FILLE., "Water in plenty," begun on Figure 129. Another series of initials, C. A. W., with an interplaced smaller R, balanced with diamonds, sprouting tulips, and tulips sprouting from the A and W, fill the lower medallion. The aureole with sheep legs, so common on the other floral plates, has been omitted, and the date 1759, on the companion side plate, marks the stove as one of the later five plate stoves cast. No evidence has appeared to explain the meaning of the initials or guess when or by whom the stove was cast. Figure 132 was found by the writer in Dr. Shirk's gutter with its fellow Figure 129, as described under the former, and the better preserved replica, Figure 131, was rescued by Mr. B. F. Owen in 1910 from the rubbish of Mr. J. E. Illig's old house near Millbach, Lebanon County, Pa.

132.

133.

William Benet of Hellam.

Left plate. Size, H. 27 x W. 28¾. Bucks County Historical Society.

The usual floral pattern with double canopy, twisted columns, aureole with dart-headed sheep legs, flower pots, chequered lozenges, stars, grooved pendants, and grain sheaves, appears above the inscription from Luther's Bible, Psalms 1-1:

WOHL. DEM. DER. NICHT. WANDELT., continued with the words IM. RATHE. DER. GOTTLOSEN., on the companion front plate, not yet found. "Blessed is the man that walketh not (in the councils of the ungodly.") Below in the medallion, flanked with the invariable flowering hearts, appear the words WILEM. BENET. H. FURNACE., undoubtedly meaning "William Bennett, Hellam Furnace." There was a well-known Hellam Forge on the south side of Codorus Creek, near its mouth in the Susquehanna, in York County, Pa., built by William Bennett in 1765, but the obscure and probably short-lived Hellam Furnace might have been overlooked by modern writers if Mr. G. F. Prowell had not informed Mr. Swank (Iron in All Ages, page 212) that William Bennett had built a Hellam Furnace with the Forge in 1765.

We know from the Potts manuscripts and from William Smith's ledger, that five-plate stoves were sold as late as 1768, but if Bennett, who was part owner of Martic Furnace about 1759, built Hellam in 1765, then this plate, necessarily cast at Hellam then or later, excluding the Stiegel plate of 1765, Figure 128, may be the latest example of a five-plate stove thus far found.

The writer saw it set in cement in the yard pavement at Seventh and Kelker streets, Harrisburg, in 1909, where its owner, Mr. E. W. Pathemore, having bought it about 1895 at Mastersonville, Lancaster County, had placed it along with Figure 55.

134.

M. C. Furnace in Lancaster.

Right Plate. Size H. 22½ x W. 24. Bucks County Historical Society.

The badly rusted plate, dug by the writer, together with two other plates (Figures 100 and 132, and three fragments of Figure 153), from a drain at Dr. Shirk's farm near Lancaster, on January 11, 1909, shows the usual floral pattern with double canopy, twisted columns, sheaves, lozenges, flower pot, and aureole with sheep legs under the left arch.

Below, the rusted inscription in the central cartouche reads, KEST. LICH. DING. This was for some time undeciphered, until Mr. A. K. Hostetter found a left replica in possession of Mr. D. B. Landis, near Lancaster, on which the unrusted letters clearly read, ES. IST. EIN. KESTLICH. DING. Kindly explained by Dr. John Bear Stoudt, of Northampton, Pa., as from Psalms 92-2, in Luther's Bible, DAS IST EIN KOSTLICHES DING DEM HERRN DANKEN. "It is a good thing to give thanks unto the Lord."

The lower medallion is filled in with a repetition of the inscription on Figures 152 and 153, namely, M. C. FORNES. IN. LANCT. CT., standing for "Martic Furnace in Lancaster County." This decipherment being further elucidated by the fragment, Figure 164. As there explained, we have the name of Thomas Smith, known to have been ironmaster at Martic Furnace (near Martic Forge, founded in 1751, on Pequea Creek near the present [1914] Colemansville, Lancaster County), coupled with the initials M. C. E., meaning probably M. C. for Martic and E. for Eisenhutten (Furnace).

According to information from Mr. B. F. Owen, of Reading, Martic Furnace was built in 1751 by the brothers Thomas and William Smith, descendants of several other Thomas Smiths, original land owners on Beaver Creek, Lancaster County. Both brothers were Sheriffs of Lancaster County, Thomas in 1752 to 1756, and William from 1758 to 1762. When the latter married he moved to Earl Township in 1756, and held his partnership in the furnace till 1760, after which the firm became bankrupt. Then Martic Furnace, together with Martic Forge, four miles away, also belonging to the company, was advertised by Sheriff Webb's sale in 1769 (Swank, 188), with dwelling house, stores, counting house, coal house, eight shops, six long stables, four bays for hay, and a lot of pot patterns, flasks and stove moulds, which latter are unfortunately not described in the advertisement quoted.

Pearse says (Iron Manufacture, page 220) that James Old had Martic Forge in 1755, and Thomas Smith, James Wallace and James Fulton were in possession in 1769 at the Sheriff's sale, and an old account book of William Smith, in possession of Mr. Owen, is interesting as marking the date of sale of some of the latest jamb stoves made (undoubtedly at Martic) in 1765, or at the time of the latest dated plate herewith illustrated, as follows, namely: One middling five-plate stove sold in 1760 at three pounds ten, one small ditto in 1765 at three pounds, two small ditto, 1765, at five pounds; three large ditto in 1765 at ten pounds ten, together with a large six-plate stove in 1767 at five pounds two-and-six, another large ditto in 1769, and a large ditto to a meeting house in 1766 at four pounds two-and-six.

Martic was in existence in 1793, but not active, and in 1890 nothing but an old cinder bank marked its site (Swank, 183).

135.

God's Shield.

Front plate of jamb stove. Size, W. 18¾ x H. 22. Mr. Valentine B. Lee, Oak Lane, Philadelphia, Pa. Bought by him from a storekeeper at Frederick, Pa.

136.

Nothing unusual appears in the flower pots, tulips and canopy of this familiar floral pattern so frequently described,

but the aureole is without counterpart in the entire collection, as altogether lacking the sheep legs, for which leaf-scrolls and lozenges have been substituted.

If the plate represents the front of a jamb stove, rather than the rear of a six-plate stove, its date, 1763, in the lower medallion, is, with one exception, the latest thus far found on a jamb stove. Here the very legible broken inscription, which begins the paragraph, Psalms 7. 11, in Luther's Bible (as indentified by Dr. J. B. Stoudt), reads: MEIN SCHILD IST BEI GOTT der den frommen Hertzen hilft. My defense is of God which saveth the upright in heart. Until the appearance of this plate, in 1914, the mutilated inscription on the two fragments, figure 136, at the Bucks County Historical Society, defied all efforts at decipherment.

These pieces were found by the writer at Williams' junk yard, Harrisburg, Pa., on April 11, 1910, just as the Jewish workmen were about to reload them, together with Figure 60, in a car for shipment and remelting. The fragments, widely separated, lay in mud under the wheelbarrow track among the heaps of "scrap" cast iron. They were weighed, bought at a cent-and-a-half per pound as the yard was closing, wrapped with wire in two filthy sacks, carried to the railroad station in the last junk wagon leaving that day, with a very lame horse, labelled at a neighboring warehouse with borrowed labels and left over night on the platform of the railroad station, after the freight office had closed.

137.

Fragment of Front Plate.

Of a five- or six-plate stove. Size, H. 14 x W. 20. Bucks County Historical Society.

This plate, found in the scrap-iron heap at a junk yard at Pottstown in 1910, and unfortunately broken above the inscription, shows two arched canopies with twisted columns. The aureole is omitted, and the tulips are set in flower pots, which decorate both canopies and duplicate each other closely, but not exactly, as they would if stamped upon the sand from a loose mould. The lozenges with four chequers to the left, unlike those balancing them, with nine chequers to the right, are enclosed in rims.

138.

God's Well of 1760.

Front plate. Size, W. 20 x H. 23. Collection of Mr. R. W. Steinman, 1910, Lancaster, Pa.

The underscored words in the following text from Psalms 65-9, "Thou visitest the earth, and waterest it. Thou greatly enrichest it with the river of God, which is full of water," would probably never have caught public attention as a maxim in English. On the other hand, Luther's translation of the same verse, Psalms 65-10, in the German version, "Gottes Brunnlein hat wassers die Fulle," commands attention at once as a beautiful and inspired sentence. According to F. R. Diffenderfer, of Lancaster, the sister of one of his friends had been taught by her German parents to repeat the sentence when a child, at the breakfast table, in about 1840 to 1850, Mr. Diffenderfer himself having been taught it by his mother about 1840.

Under a vaulted canopy with pendant corbel and adorned with tulips wheat sheaves and chequered lozenges, stands the aureole flanked with two flower pots growing tulips, enclosing a heart tulip and supported upon the usual sheep legs.

Below, the words WASER. DIE. FYL. LE. complete the GOTTES. BRYNLEIN. sentence (see Figures 129, 131, 153 and 154), begun on the side plate, 117. Although the usual double dot abbreviation occurs in the oil Miracle plate, Figure 27, probably cast in Germany, it has not yet been found upon any American-made plate in the collection, where the letter Y often takes the place of the OE or UE, etc., thus abbreviated with a double dot. Here the word "fülle" is spelled with a Y, though it appears otherwise in Figures 131 and 153, as FILLE. and FILE.

universal both for cooking and house warming in all American colonial houses whether German, Dutch, Norse or English, was never superseded by the stoves, and all the evidence shows that the German settlers used the latter always as adjuncts to the cooking hearth, rather than as independent centres of heat. The name "Jamb Stove" in Watson's Annals shows that they often opened into adjoining rooms through the jamb of a fireplace, like the Norse stove shown in Figure 1, at right angles from the fire, and à rectangular hole

The medallion below, adorned with a central tulip, is flanked with the invariable heart tulips, and clearly marked with the year 1760, adorned with a graceful S-like tail to the numeral 1.

The plate found January 13, 1909, by the writer at Mr. A. J. Steinman's rolling mill in Lancaster, had come into the possession of the owner with the scrap iron bought for remelting. For some time it remained without the elucidation of its side plate. Then a replica, together with Figures 117 and 118 as its right and left side plates, in the collection of Col. H. D. Paxson, at Holicong, Pa., proved it to be the front plate of a five-plate stove, cast, according to Mr. B. F. Owen, at Martic Furnace when Thomas Smith, William Smith, William Benet and Samuel Webb were ironmasters. (See Figure 117.)

139.

The T. B. Plate.

Front plate of five- or possibly a six-plate stove. Size, W. 19 x H. 22½ inches. Mrs. John Faber Miller, of Chestnut Hill, Pa.

The plate photographed August 30, 1910, had been formerly used as a step at a spring house on an old farm belonging to the Yeakel family at Chestnut Hill Park, Philadelphia, Pa. After having been in their possession for about fifty-four years, it had been removed to its present position in about 1893 (information of S. W. Reed, coachman).

Unfortunately no side plate had been found or heard of by the Miller family to explain the initials T. B. in the background under the canopy, to determine whether the plate dated 1760 belonged to a five- or six-plate stove, or to complete the broken inscription DER. UND. EIN. GO., which, however, as kindly explained by Dr. J. B. Stoudt, coincides with the middle of the sentence from Psalms 7, 12, from Luther's Bible Gott ist ein rechter Rich TER UND EIN GOTT der taglich drauet. God judgeth the righteous and God is angry with the wicked every day.

In this case the inscription could not have been duplicated on the two side plates, but must have begun on the left and ended on the right. Therefore as a rare exception to the general practice, the stove must have been cast from three moulds instead of two. No other evidence of this sort has yet appeared except in the case of the Despise Not Old Age plate, Figure 108, but there, for the reasons given, it is uncertain.

This same date, together with so close a similarity in the treatment of the medallion border as to suggest the same pattern carver, appears upon the front plates of the Stiegel and Martic five-plate stoves, Figures 126 and 138.

140.

The Thanksgiving.

Right plate of Jamb Stove. Size, W. 22½ x H. 22¼. Mr. W. E. Montague, Norristown, Pa.

Not the design which is the oft-described floral pattern, but the inscription, as identified by Dr. J. B. Stoudt, strikes us. This quotes the first verse of Psalms 106, 107 or 118 in Luther's translation, DANCKET. DEM. HERRN. DENN. ER. IST. FREUNDLICH. UND. SEINE. GUTE. WAHRET. EWIGLICH. Give thanks unto the Lord for He is good and His mercy endureth forever.

in the back of an old fireplace at the Clemens House, Doylestown, seen by the writer in 1912 is evidence of their projection into adjoining lean-to sheds or workshops, built against the house wall back of the fireplace, where abundant shavings would have made the sparks of a fire dangerous.

Thus the kitchen fire, always burning, did double duty. The hot embers or burning fuel thrust through the wall into the iron box beyond and raked out or replenished in a moment, might, in the imperfect draught of the stove, smoke and smoulder, as they would. No dangerous spark or stifling smoke escaped into the room heated, and no extra chimney was necessary. The stove, without iron legs, set upon a base of bricks, held together by one bolt, built against and into the wall, was safe from upset or collapse.

The words "For He is good" seem cold and stilted in the English version, and no less so sounds the "Quoniam bonus" in the Latin Vulgate, but to praise God because he is "friendly," warms the quotation with a life unknown in English, and which might account for its continued use according to Dr. Stoudt as a table prayer among the Pennsylvania Germans.

The Biblical sentence, beginning on this right plate with the words DANCKET. DEM. HERN. DEM. is continued on the front plate, Figure 141, and if the quotation ends there with Luther's beautiful word FREUNDLICH, two carved moulds would have sufficed for this stove. But if the sentence has been completed on the missing left plate, then three moulds would have been required.

The initials WI. WB. BH. and AD. on the lower medallion remain unexplained.

The mould carver has blundered by carving the word DEM for DENN.

141.

The Thanksgiving.

Front plate of Jamb Stove. Size, W. 20 x H. 22¼. Mr. W. E. Montague, Norristown, Pa.

This plate, clearly dated 1762, is undoubtedly the front plate to Figure 140 and, as there explained, continues the inscription from Psalms 105, 107 or 118, 1, "for he is good" (or, as expressed in the Latin Vulgate, Loch edition, Manz Ratisbon, 1902, QUONIAM BONUS), with the more appealing German words of Luther's translation, ER. IST. FREUNDLICH, he is friendly.

141-a.

Stevenson and Ross.

Right plate. Size, H. 22½ x W. 24. Mr. Albert Cook Myers, Moylan, Pa.

The old floral pattern with its canopies, central cartouche and lower medallion is here entirely devoted to advertisement. On the rim and central stripe of the lower medallion and under the arches above, appear uncorrected impressions of the heads of six or seven large bolts, as having held together the wooden mould which they rudely penetrate. The sheep heads of the aureole have become short points and the inscription, no longer Biblical, is balanced with decorative periods, set between the letters, regardless of syllables, and reads, in the central cartouche, George Stevenson, and in the lower medallion, George Ros, Wiliam. Thom. (for Thompson).

We can imagine the German designer in the littered work shop of his log house, probably heated in winter by a jamb stove and lit at night with a lard lamp, carving this plate, which rescues from oblivion a partnership of English ironmasters who probably took little interest in his work. His name is lost. His descendants, if he has left any, have forgotten him. His tools and designs have perished. But whoever he was, he must have carved the Carlisle plate, Figure 162, and the whole group of patterns there noted. A peculiar style common to them all seems to settle this fact.

The work must have been done for Mary Ann Furnace, probably the first Pennsylvanian furnace west of the Susquehanna, on Furnace Creek, West Manheim Township, Southwest York County, between 1761 and 1765, when, according to Colonial Forges and Furnaces in the Province of Pennsylvania,

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On the other hand, from the manufacturers' point of view this simple stove with its five flat rectangular plates, cast in open sand without the trouble of flasks, was easily made. No perforation for stove door or hinge hooks, no iron framework for legs, no pipe holes, and, before the days of machine rolled sheet iron, above all, no stovepipe of thin hammered iron, was necessary.[66]

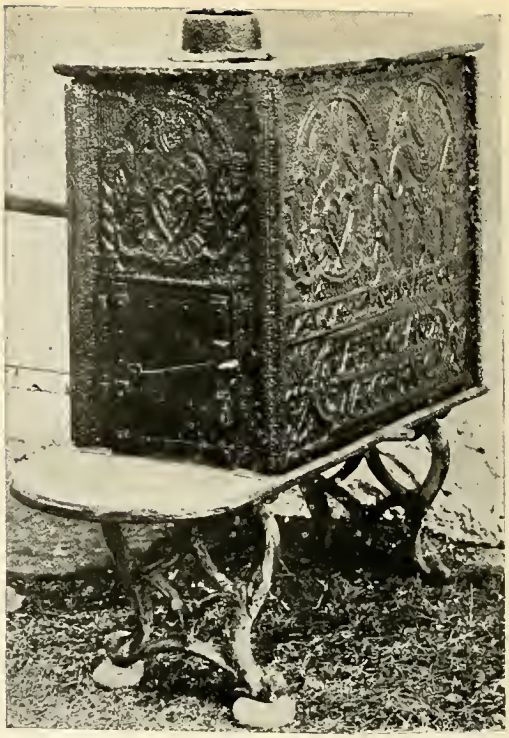
Their end came suddenly when improved equipments in the American furnaces enabled them to produce stovepipes, and make the more elaborate castings required for the six-plate ventilating stove which next claims our attention.

Colonial Dames, 1914, page 160, George Stevenson, George Ross and William Thompson, founders of the furnace, were partners there.

George Ross (1730 to 1779) was born in 1730, and was the son of George Ross, the "rector" of New Castle, Delaware. He was a lawyer at Lancaster in 1750, member of the Continental Congress, and signer of the Declaration of Independence. He declined a costly piece of silver plate as a public testimonial from the citizens of Lancaster. In Lancaster his house stood on the site of the present Court House, and his country house, "Rossmere," was in the suburbs. He was warden of St. James' Church at Lancaster, Judge of Admiralty of Pennsylvania, died in 1779, and is buried at Christ Church, Philadelphia.

George Stevenson was born in Ireland in 1718. He studied at Trinity College, Dublin, and taught school at New Castle, Del. He was deputy surveyor of Lancaster County and went to York, Pa., in 1744. From 1749 to 1761 he held various legal offices in York County, and was Chief Ranger of Pennsylvania under Governor Hamilton in 1750. He went to Carlisle in 1765, and was owner of the site of Pine Grove Furnace (built by Thornburg & Arthur in 1770) for eight or ten years after 1764.

William Thompson, born 1736, lived on a farm on the Conodoguinnet Creek, near Carlisle. He was Captain of Light Horse in 1758, and married first a sister of George Stevenson, and second a sister of George Ross. He was a Colonel of a battalion of riflemen in the Revolution in 1775, a Brigadier General in 1776, and captured by the British in the attack on Quebec. After being paroled he was finally exchanged in 1780. He died in Carlisle in 1781, and is buried in the Old Grave Yard. (See Colonial Forges and Furnaces, Colonial Dames, page 160), which also illustrates another right jamb stove plate of a similar floral pattern, unfortunately mutilated in the illustration, dated 1763, with the inscription, George Stevenson, George Ross, Mary Ann Furnace and William Thompson, all spelled in full, the "enson" of Stevenson being set in the upper panel under the date, and the lower medallion being enlarged to fill the whole lower panel.



142.

Depart from Evil.

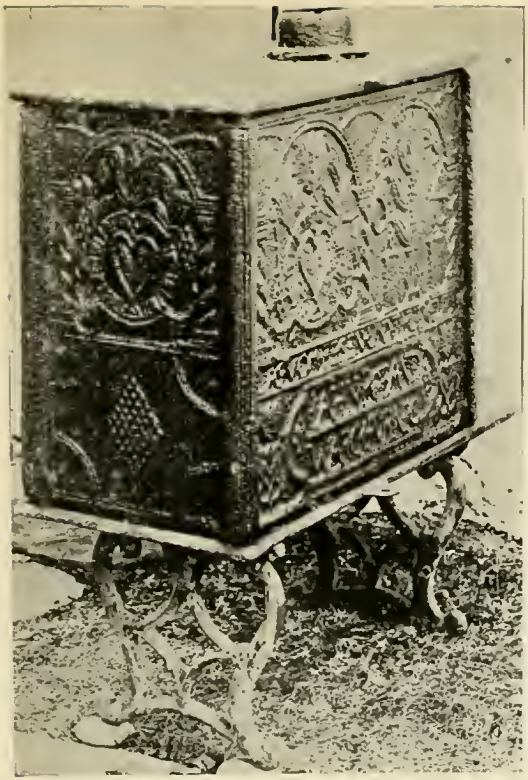
Six-plate draught stove. Size, H. 24 x 26½ long x W. 14. Col. H. D. Paxson, Holicong, Pa.

Front view, showing hearth extension on bottom plate, wrought iron fuel door in front plate, wrought iron base for the smoke pipe riveted upon the top plate (Figure 144), perforated projecting lips for the long outer bolt on the top and bottom plates, and cast iron legs. The side bolts are lost. The side plate with its typical floral design, date, Biblical inscription, and advertisement, is described under Figure 159. Cast at Warwick Furnace, on south branch of French Creek, Warwick Township, Chester County, Pa., for John Potts, ironmaster, in 1764.

DRAFT HOLLAND OR SIX-PLATE STOVE DESCRIBED.

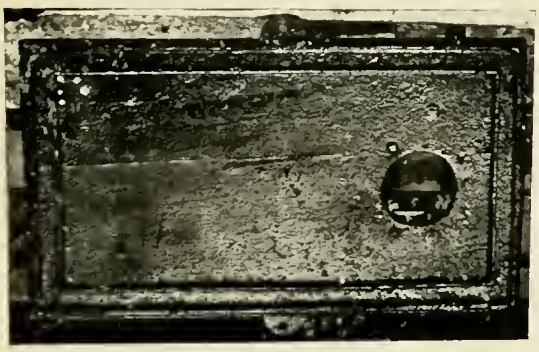
Figure 142 shows one of the American "Six Plate" stoves in the possession of Colonel H. D. Paxson, at Holicong, Bucks County, Pennsylvania. Constructed in principle like all modern American house-warming stoves, standing free of the wall on iron legs, with fuel door and stovepipe, and hence ventilating the room heated, the stove is easily distinguished from the older non-ventilating "Five Plate" "Jamb" stoves just described. It is constructed of six very heavy plates, cast, like those of the older stoves, in open sand, and which, examined one by one, differ so much in shape and construction from the jamb stove plates that they are easily to be distinguished from them.

Unlike any of the jamb stove plates, the top plate is perforated for a smoke pipe, and shows, not merely one marginal lip for bolting, but two. (Figure 144.) The bottom plate has a projecting hearth and again two perforated bolt lips rather than one. (Figure 145.) The interchangeable duplicate right and left plates lack the very characteristic broad rims of the older stoves for wall insertion (Figures 142 and 143), and the front plate shows the unmistakable fuel door. (Figure 146.) On the other hand the back plate of the six-plate



143.
Depart from Evil.

Six-plate draught stove, rear view of Figure 142.



144.
Top Plate of Six-Plate Stove.

Size, W. 16 x L. 28½. Inside view of the top plate of Figure 142, showing the hole for the stovepipe, and the continual channel surrounding the plate for the insertion of the front, rear and two side plates. It differs from the top plate of a five-plate stove by the position of the two perforated lips for bolts on the sides, rather than the end of the plate, the perforation for the stovepipe, and the continuation of the channel for the vertical insertion of the side plates, entirely around the plate, rather than on three sides only.

145.
Bottom Plate of a Six-Plate Draft Stove.

Size, W. 16 x L. 39. Loose plate belonging to Figure 142. It differs from the bottom plate of a five-plate stove by the position of the perforated lips for bolting, which are cast upon its sides rather than upon its end, and also by its circular extension for a hearth. The continuous marginal channel for holding the vertical rear side and front plate, discontinued at the fuel door, is shown.

146.
Front Plate of a Six-Plate Draft Stove.

Size, H. 24 x W. 14. The plate shown in reverse Figure 147.

stove and the front plate of the five-plate stove are constructed alike, are of about the same size and with the guttered rims similarly cast solid on their margins may be confused. (Figure 148.[67])

Thus constructed, the stove here shown illustrates the whole series of American six-plate stoves under consideration. All slightly

147.

Belonging to Figure 142, is fitted with wrought-iron fuel door and draught wicket.

The upper panel, showing the aureole with tulips, canopy, etc., is a close copy, though not a replica, of that on the rear plate, Figure 148, showing that a special mould had been carved for each plate.

148.

Rear Plate of Six-Plate Draft Stove.

Belonging to Figure 142. Size H. 24 x W. 14. Col. H. D. Paxson, Holicong, Pa.

This plate, shown in reverse Figure 149, is the only plate in the six-plate stove which, in its construction, is not distinguishable from the front plate of a five-plate stove, the general shape and grooved rims being the same.

vary in size, all are made of six very heavy open sand-cast plates, and all are constructed and decorated, as described, in about the same way. As independent heating apparatus not attached to the ever-burning kitchen fire, they required special attention, and not being built solidly into the wall must at first have seemed more dangerous and liable to upset than the older stoves.

On the other hand, they were portable, burnt better, and owing to their superior draught, warmed a room more quickly than the former.

DECORATION OF THE SIX-PLATE STOVES.

In Figures 142 and 143 four of the plates, the right, the left, the front, and the back, are decorated with the tulip pattern already described. The right plate (Figure 142) is interchangeable with, and being cast from the same mould, duplicates the left plate, shown in Figure 143 and the aureole with sheep's legs appearing as the whole pattern on the front and back plate, shows in the left canopy in the right and left plate, where the words John Pott (iron master in 1764) and Warwick Furnace, IAHN. POT. AND. WARCK. FVRNEC. appear with the motto: LAS. VOM. BESEN. UND. THUE. GUTES. Psalms 37: 27.

The illustrations in the collection herewith shown, which present all the plates (Figures 142-178) which the writer has thus far heard of in Pennsylvania, show that the decorations of the stoves, in most cases, thus represent the tulip pattern with flowered aureole and sheep's legs above described as appearing on the latest five-plate stoves. Although the Biblical quotations still con-

149.

Here we have the aureole under a canopy supported on twisted columns, with the sheep heads changed to darts. The date medallion and central cartouche with its inscription, seen upon the side plate, has disappeared, and in its place we have four empty scallops, enclosing a chequered lozenge. Within the area thus bordered, impressions of two bolt-heads appear, which the ironcaster has neglected to erase from the sand.

The reverse, Figure 149, shows the unmistakable waved surface characteristic of iron castings in the open sand without flasks.

150.

Danish Six-Plate Draft Stove.

Size, about 26 high x 24 long x 18 wide. Rijks Museum, Amsterdam.

Through the kind permission of Dr. B. W. F. Van Riemsdyk, who informs us that the stove, probably made in Danemark, is dated 1753, and that the top plate, as in the Dutch ten-plate stove, Figure 185, is very heavy, and probably sufficiently so to hold the stove together without bolts. No sign of these appear either on the top plate or on the corner rims, which are here cast solid, not on the end plates as in America, but upon the side plates.

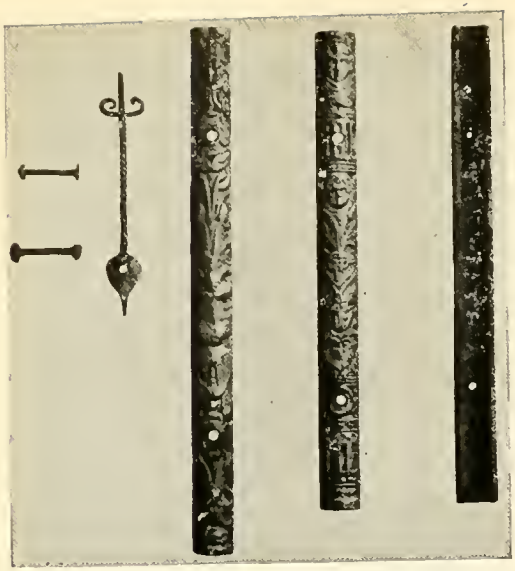
The heads of double bolts, appearing on the side plate below the inscription, may represent some method of holding the stove together by means of interior staples or bolts.

tinue (always in German and never in Dutch, notwithstanding the Dutch ancestry of the stove, as explained later), the old Biblical scenes, so frequent on the earlier jamb stoves, do not, perhaps with one exception, "The Conqueror" (Figure 166), appear on any of the six-plate stoves. Furthermore, it appears, that advertisements of the names of iron masters and of furnaces (using the English word Furnace, often spelled Furnec), latterly more frequent on the jamb stoves, become common upon the six-plate stoves.

EUROPEAN ORIGIN AND VARIETIES OF THE SIX-PLATE STOVES.

That these stoves were not invented in America, but like the jamb stoves described above, had existed long previously in Europe, is shown by the illustration (Figure 8) which shows one of them (not in its original position) in the Rijks Museum at Amsterdam, undated, but of the 17th century. Lacking its original legs, the stove, as described in Chapter I, consists of six rectangular plates, held together, as with the five-plate stoves before described, by loose gutter shaped rims and short bolts. The front plate shows a cast-iron fuel door, and the exceedingly heavy top plate with its stovepipe attached, has projecting perforated lips overhanging either side plate for the insertion of diagonal bolts, fastened to the projecting ends of the long transverse bolt penetrating the stove from side to side as shown by the perforations in the picture. The bottom plate, also very heavy, is rectangular and lacks the circular hearth projection which appears in Figure 150.

Figure 150 shows another six-plate draft stove from Denmark in the same museum, in



151.

Loose Corner Rims for a Jamb or Draft Stove.

Each showing two bolt holes for fastening the corners of an ancient stove whether of the jamb or draught-stove pattern. Size, about H. 30 and 27 inches by about W. 3¼, together with two of the loose bolts used for fastening them, and the longer diagonal bolt used to secure the top plate to the side as in figure 5. The reverse side of the companion to the middle rim is shown at the right. The inside washers, or perforated iron strips, as in Figures 2 and 3, are not shown. From the Norse Folks Museum at Christiania, Norway. Museum No. 1178.

152.

Martic Plate of 1761.

Side plate of six-plate stove. Size, H. 24¼ x W. 27¼. Bucks County Historical Society.

The usual floral pattern, with double canopy, twisted columns, aureole to the left, lozenges, sheeps' heads, wheat sheaves, and the date, 1761. The central cartouche, with its religious inscription, is wanting, and in the medallion below appears the inscription,

M. C. FORNES.
IN. LANGD. GT.

The same inscription, with its last four letters varied into CT. CT., occurs on the jamb stove side plate, Figure 134, and on the six-plate side plate, also dated 1761, Figure 153, which latter shows the Gottes Brinlein motto on the central cartouche.

These inscriptions long remained unexplained until the clew was found in the fragment, Figure 164, where the words Thomas Smith, known to have been ironmaster at Martic Forge and Furnace in 1765, are preceded by the letters M. C. E., which the writer deciphered to mean MC for Martic, and E for Eisenhutten, the German word for furnace, hence the full inscription would read, Martic Furnace (an annex of Martic Forge, on Pequea Creek, near Colemansville, Lancaster County, Pa., built, according to Mr. B. F. Owen, by Thomas and William Smith in 1751, owned in 1765 by Thomas Smith, James Wallace and Joseph Felton, and advertised for sale, with the forge, machinery, and a number of stove moulds, in 1769), the LANCD. signifying Lancaster, and the GT standing for county, or "gounty," as a German might spell and indicate it phonetically.

This plate, together with several fragments, now lost, and another side plate was found about 1906, in an old house formerly belonging to the Funk family, on the Durham road, near Gardenville, Bucks County, Pa.

153.

God's Well.

Side plate of a six-plate stove. Size, H. 24¼ x W. 27¼. Bucks County Historical Society.

Upon this fine variation of the usual and frequently described floral pattern, where tulips sprout from the heads of the very distinct sheep upon the aureole, the beautiful motto: GOTES. BRYNLEIN. HAT. WASER. DIE. FILE., from Psalms 65-10, Luther's Bible, "God's well hath water in plenty," or, in the common English version, "Thou greatly enrichest it with the River of God, which is full of water," is complete in the central cartouche.

Appearing on both five- and six-plate stoves, but invariably with the floral pattern, and variously spelled, the motto lacks the word FILLE on the IAHN POT plate of 1762, Figure 154, the words DIE. FILLE. on the Flower-Redding plate of 1764,

Figure 160, and the words WASER. DIE. FILE., on Figure 117, and on the I. A. R. B. plate of 1759, Figure 129, but is complete on this Martic plate, Figure 153.

The most interesting feature of the present plate is the abbreviated inscription, appearing again in the varied form (LANCT. CT., on Figure 134), which I have deciphered as follows: M. C. FORNES, Martic Furnace, IN. LANCD. (Lancaster), G. T. (County spelled phonetically by a German workman for "County").

Figure 164 shows that we may associate MC. with Martic, because Thomas Smith, whose name appears on the latter in the inscription MCE. THOMAS. SMITH., built Martic in Lancaster County in 1751. In this case the E before Thomas may stand for the German word Esen or Eisenhutten, meaning furnace.

The fragments of two replicas now in the Bucks County Historical Society collection were found by the writer in a wood house at Miss Kratz's farm at Danboro, Pa., in September, 1912.

154.

God's Well of Warwick.

Side plate of six-plate stove. Chester County Historical Society, West Chester, Pa. Figured in Centennial Souvenir of West Chester, published by the Daily News, 1899. Appendix, page 79.

Two noticeable features mark the usual floral pattern so frequently described. The substitution of points supporting tulips for the sheep heads of the aureole, as seen also on Figure 157, and the insertion of the final E out of level within the right border of the date medallion (compare the E in Figure 155). The inscription GOTES. BRYN. LEIN. HAT. WASER. DIE., from Psalms 65-10 in Luther's Bible (continued on the end plate not yet found), "God's well has water in plenty," or, as in the English translation, "The River of God, which is full of water," lacks the last word FILLE, and the words WARCK. FORNACE. IAHN. POT., "Warwick Furnace, John Potts," fill the lower medallion. The O in the word "Pot" is decorated with a lozenge within its circle.

When the celebrated ancient charcoal furnace of Warwick, on the south branch of French Creek, in Warwick Township, Chester County, Pa. (built, according to Swank, page 172, by Anna Nutt, widow of Samuel Nutt, in 1738), was abandoned in 1858, the massive stone furnace stack, originally 32 feet high by 21½ feet wide at the base, with 7½ feet boshes (interior oven diameter), must soon have disappeared as building material. The old wooden bellows that cost nearly two hundred pounds (James, 29), and immense propelling water wheels, no longer exist, and nothing but ruined walls and cinder heaps mark the site of the pioneer furnace, which, making twenty-five tons of pig iron per week, destroyed about two hundred and forty acres of primeval forest (five to six thousand cords of wood) a year (James, 29).

Young Samuel Nutt died before Anna Nutt, his mother, completed the furnace, and his widow married, in 1741, Robert Grace (born 1709 and died 1766, the friend of Franklin), who for a time thereafter managed the furnace. Franklin presented Grace with the model of his celebrated cast-iron, down-draught fireplace, invented in 1742, and although Grace cast many of the early Franklin apparatus at Warwick, as appears in the Potts MSS. (Warwick) ledgers, the Potts MSS. (Coventry) ledgers (Ledger 3, page 87) show that the first Franklin stove was cast, in account with Grace, not at Warwick, but at Redding Furnace, September 23, 1742, when "seven small new-fashioned fireplaces" were sold to Mr. George Rock, at Northeast, Md.

Nearly all the Warwick Furnace ledgers are in the possession of Hon. S. W. Pennypacker at Schwenksville, Pa., but they throw little light upon the history of the stoves here described, or their decoration and construction, notwithstanding the fact that probably more of them were cast at Warwick than anywhere else.

The furnace was managed, according to Acrelius (quoted in Hist. of Chester County, Cope, 1, page 211), by a third Samuel Nutt in 1756, by John Potts, whose name appears on so many of the floral plates, for some time, and until his death in 1768 (James, 110), by his sons, John Potts, Jr., and Samuel Potts, with their father, before 1768, and for some time thereafter, and by Thomas Rutter and Samuel Potts in 1776, when, during the Revolution, Warwick cast Continental shot, shells and cannon, some of which latter were buried to prevent British capture. According to Mrs. James, page 110, two large "Moravian stoves" (probably the iron fire chambers for tile stoves like Figure 227) were sold there in 1774, five tons of stoves in 1779, and, in 1785, "Franklin stoves" at five pounds ten each, "Ten-plate stoves" at ten pounds each, and large six-plate stoves at six pounds, and five pounds ten each, respectively.

The Franklin stove which Mrs. James found in an old house near Warwick, with the words Warwick Furnace in 2-inch letters cast upon it (James, 211), which lacks the sun and Latin motto of Franklin (see Figure 229), could not have been, as she thinks, an original. Neither is the stove figured by Lossing, from the Hibernia Furnace, New Jersey, Field Book, Vol. 1, page, 328.

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this case with the guttered rims cast solid upon the side plates, with fuel door and stovepipe as before, but with a circular hearth projection, as in the American stoves, upon its bottom plate. It entirely lacks bolts, or perforations for bolts, and, according to information from the Rijks Museum, is held together by the weight alone of the top plate.

When we compare these European originals with their American successors here shown, a far greater richness and variety of decoration appears in the former, besides which several constructive differences are noticeable. In the European stoves the rims (always solidly cast in America) are sometimes loose. The bolting is different or absent

155.

The E Plate of 1763.

Side plate of six-plate stove. Size, H. 19½ x W. 22. Col. H. D. Paxson, Holicong, Pa.

The usual arched pattern, with tulips and flower pots and the date 1763 under the canopies. The words COLEBROOK-DALE FURNAC fill the cartouche, and the inscription THOMAS RUTTER. THUE. RECHT. UND., "Do right and," are cast in the lower medallion.

The striking features of the pattern are the combination of T with H three times repeated, namely, in the word Thomas, Thue, and Recht, and the letter E of the word furnace, introduced out of balance and out of proportion with the otherwise beautifully carved inscription, which disturbs the eye in the background of the upper right canopy.

A heap of cinders marks the spot where, according to several writers, Colebrookdale, the earliest furnace in Pennsylvania, named after Colebrookdale Furnace in Shropshire, England, was built in 1720. Not to be confounded with the post-Revolutionary Colebrook Furnace in Lebanon County (on Conewago Creek, seven miles southwest of Cornwall Furnace, built by Robert Coleman in 1791, and abandoned in 1860) it stood in the midst of a valuable deposit of magnetic iron ore, eight miles north of Pottstown and three-quarters of a mile west of Boyerstown, Pa.

Established by Thomas Rutter, a citizen of Germantown, and associated from the first with Pool Forge, the first iron works in Pennsylvania, and later with Pine Forge nearby, attacked by "French Miami" Indians in 1728, pulled down and rebuilt in 1736, marked on Skull's map of 1753, and listed, but probably inactive, in 1793, it appears to have been abandoned about 1765, or soon after the date of the plate in question.

The name Rutter is associated with the furnace from first to last, since Thomas Rutter (died 1729) founded it in 1720, since members of the Rutter family continued to own it in part or manage it together with their relatives of the wealthy Potts family, and since the name Thomas Rutter is here stamped on one of the last stove plates cast at the furnace.

According to Mrs. Potts James, Memorial of the Potts Family, Cambridge, Massachusetts, 1874, there were four Thomas Rutters, all probably associated with Colebrookdale Furnace, and the person whose name is inscribed upon this plate, Figure 155, is not. (1) Thomas Rutter, the founder, who died in 1729, nor (2) Thomas Rutter, son of the founder, born 1690, died 1734, nor (3) Thomas Rutter, grandson of the founder, son of Joseph R., born before 1731, lived at Coventry, and died in 1808, but (4) Thomas Rutter, grandson of the founder, son of Thomas R., born in 1731 and died in 1795.

This last Thomas Rutter, at the death of his father in 1734, inherited a share of Colebrookdale Furnace, was Justice of the Peace under the Crown, a share-owner of Warwick Furnace, lived at Pottstown at a house called Laurel Lodge, and was brother-in-law to Thomas Potts, another share-owner of Colebrookdale, who had married his sister Rebecca. According to the stove plate, Rutter had charge of the furnace in 1763, and when Thomas Potts died in 1762, appears to have continued its management. He died at Pottstown in 1795, aged 64, and was buried there in the Potts-Rutter family graveyard.

The Furnace Ledgers in the possession of Governor Pennypacker show that these stoves were cast at Colebrookdale in the 1730's and 40's, but no dated plates have been found to prove the fact, and if, for the reasons given under Figure 31, the remarkable Fortune Plate of 1726 is not to be attributed to Colebrookdale, then we are left with six comparatively late plates, namely, Figure 155, here illustrated; Figure 168, the front plate of 1758; Figure 115, the Thomas Potts plate of 1758; Figure 111, and the fireback of 1763, Figure 215, as the only stove products of the oldest furnace in Pennsylvania.

This plate may be a replica of the plate dated 1763, Colebrookdale, exhibited at the Philadelphia Centennial Exposition of 1876 (see Swank, page 168). (2) Replica, figured, page 95, in Tulip Ware, by E. A. Barber. (3) Replica, presented to Bucks County Historical Society by Miss Burd, of the Burd School, Bucks County, Pa., November, 1911, found by her at a house northeast of Gardenville along the turnpike, where the writer had previously seen it and tried in vain to get it. (4) Replica, Mr. Rutter, Philadelphia, given him by Col. H. D. Paxson.

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altogether, the hearth extension, invariable in the American, is sometimes wanting in the European stoves, but the general construction, appearance and principle, the rectangular box shape, the six rectangular plates, the smoke pipe and fuel door are the same.

Ambrosiani says that they were used in Sweden, where they are called "Wind Stoves" or draft stoves (Vindugen) in the 17th century, and Fett describes them as Vindoven, in Norway and Denmark, in the same period. In Holland, where it appears that five-plate stoves were not used, save upon the German frontier, they were so popular and common in the 17th and 18th centuries that Rees, in the Encyclopedia of 1788 in its general classification of stoves, calls them Dutch stoves.

Very efficient, easily removable from one room to another, of superior draught and quick heat, desirable for ventilation, and well adapted to a region like America where wood was abundant, it is nevertheless a noteworthy fact that these stoves, which are the direct projenitors of all modern American house-warming

156.

Samuel Flower of 1764.

Side plate of six-plate stove, here shown set together with top, bottom and rear plates, but lacking the front plate. Size, 22 long x 20 high x 14½ wide. The usual tulip pattern, with the date, 1764, cast under the capon'es. As in Figure 152, the central cartouche with its religious motto, is omitted, and the medallion in the lower panel contains the words. SAMEL. FLOWER. RETING. FURNACE., "Samuel Flower, Redding Furnace," which, as appearing with various spellings of the words Flower, Redding and Furnace, on Figures 94, 100 and 160, explains the initials S. F. on the beautiful patterns, Figures 96 and 99. Two peculiar features of the design are the changing of the sheeps' heads in the aureoles to darts, and the replacing of the heart tulips on either side of the lower medallion with chequered lozenges.

The writer found the loose plates of this stove, lacking the front plate, lying face downward, as a hearth pavement in a large kitchen fireplace in an old house near Cassidy's Rocks, on Tohickon Creek, Bucks County, Pa., in 1907, after having previously seen the pieces in the same place in 1898, and vainly tried to buy them from the former owner.

157.

The Corrected E of 1763.

Side plate of six-plate stove. Size, H. 24 x W. 27. Berks County Historical Society.

The pattern at first glance repeats that of the E plate, Figure 155. The date and inscription are identical, but the plates are not replicas. The aureole with headless sheep as legs, appears in the left canopy, stars replace the lozenges above. Heart tulips flank the medallion below. The whole wooden pattern has been recut by the carver, who in spacing his letters for Figure 155, and learning too late that the English word furnace was spelled with a final e, took the old decorator's liberty of throwing the letter out of place and into the upper canopy. But here, probably on complaint of Rutter, he readjusted it to suit his employer's taste.

Replica, Col. H. D. Paxson, Holicong, Pa., 1913.

stoves, and which had been contemporaries of the five-plate, non-ventilating jamb stove in northern Europe since the middle of the 17th century, did not appear in America until about forty years after the introduction and general use of the jamb stove.

The fact may be accounted for by the difficulty of manufacturing the plates, perforated fuel doors, the adjustable legs, and the stovepipes of sheet iron, but more probably by the fact that the stove fashion came to America from Germany where five-plate wall or jamb stoves were universal and six-plate draft stoves comparatively unknown, rather than from Holland, where the latter were the principal stoves in use.

Furthermore, it seems probable that these draft stoves reached America by way of English ownership of American furnaces through England, where the six-plate stove had been probably introduced by the middle of the 18th century, rather than direct from Holland.

Like the non-ventilating five-plate jamb stove, the ventilating stove in Europe appeared in various forms. Ambrosiani speaks of wind stoves, draft stoves (vindugen) built against the wall in Sweden and therefore non-portable, also of wind stoves with upper stories for heat retention of earthenware or of iron, and a plate in the Rijks Museum at Amsterdam shows the fuel door of one of these draft stoves opening upon the side rather than the front plate. (See Figure 9.) Also the ancient

158.

John Potts of 1763.

Side plate of six-plate stove. Size H. 19 x W. 21½. Mr. Charles A. Suddars, 122 South Sixteenth street, Philadelphia, May, 1914. Found by Mr. Suddars in 1913 in an old house at Churchtown, Lebanon County, Pa. Replica at antique store, Germantown avenue and Harvey street, Germantown, May 2, 1914.

Lacking the central inscription, the floral pattern is a copy with variations of the larger plate of the year after, Figure 159. Here the advertisement in the lower panel varies the spelling to IAHN. POT. AND. WARK. FURNACE.

159.

"Depart from Evil" of 1764.

Side plate. Size, H. 23½ x W. 26½. Here shown set against its back plate.

The usual floral pattern with variations, and the date 1764, is set under the usual canopies. The central inscription reads LAS. VOM. BESEN. UND. THUE. GUTES., from Psalms 37-27, in Luther's Bible; "Depart from Evil and do good," and the words "IAHN. POT. AND. WARCK. FURNEC.," fill the lower medallion, thus showing the German UND and the English AND in the same inscription. It is further noticeable that the U's in the central cartouche are round, and that in the word FURNEC is pointed.

The sheeps' heads in the aureole have turned to darts, and for the reasons given under Figure 162, we may suppose that this plate, the Carlisle plate, Figure 162, the two Samuel Flower plates, Figures 156 and 160, the Curtis Grubb plate, Figure 163, and the Elizabeth and Hellam plates, Figures 127 and 133, were carved by the same hand. The plate was found by Mr. J. Cheston Morris at an old house in Penllyn, Pa., and Figures 142 to 149, inclusive, show a complete stove of the same pattern photographed from both sides, with its top, bottom and rear plates, as described in the text.

Other replicas have appeared, as follows: (1) Side, Hon. S. W. Pennypacker, at Schwenksville, Pa.; (2) and (3) sides (besides the complete stove above mentioned), Col. H. D. Paxson, Holicong, Pa.; (4) side, Dr. J. E. Scott, New Hope, Pa.; (5) side, Bucks County Historical Society, bought from Abram Poulton in 1910, who had found it in the old Leatherman house near Plumsteadville, Pa.; (6) side, J. O. K. Roberts, Phœnixville, Pa. (information of Mrs. Wynne James), in 1909; (7) side, in possession, June 4, 1911, of F. Cooper Pullman, of Wyncote, Pa.; (8 and 9) sides, June, 1911, recently found in old fireplace at Washington Hotel, Sellersville, by Landlord J. S. Kline (information of Mr. Thomas Ross); (10) side, April 1, 1912, Mr. J. H. Lynn, Langhorne, Pa., recently bought at an old tavern near North Wales, Montgomery County, Pa.; (11) side, Bucks County Historical Society, bought at Pottstown, Pa.; (12) fragment, Bucks County Historical Society, found in the kitchen hearth at Mr. Thomas Sassaman's house at Ottsville, Bucks County, Pa., in 1897, in association with the five-plate stove plate, Figure 89.

160.

Samuel Flower of Redding.

Side plate of six-plate stove. Size, H. 23¾ x W. 27. Bucks County Historical Society.

cylindrical stove standing free of the wall, figured in Siebenaler (page 170) as of the 17th century, but redated 1742, and the stove in Kassel, page 60 (of about 1830), called a "Pommerofen," are draft stoves, and no doubt still other forms are represented by loose plates in the European museums.

Before 1760 no dated American plate of

Upon the usual floral pattern with flower pot, aureole, heart tulips, eight-point stars, sheeps' heads turned to darts, wheat sheaves, lozenges and twisted columns, the date, 1764, appears under the canopy, and here perhaps cast for the last time upon a stove, the beautiful quotation from Psalms 65-10, in Luther's Bible, filling the central cartouche, reads GOTTES. BRINLEIN. HAT. WASER., "God's well hath water," lacking the final words DIE. FILLE., "In plenty," no doubt continued on the missing end plate.

Several other Redding plates have appeared cast with the name or initials of Samuel Flower or the furnace, variously spelled, viz.: Figures 94, 96, 99, 100 and 156. Here the spelling of the ironmaster's name, in the medallion below, appears M. SAMEL. FLOR. REDIG. FURNACE., the prefixed M possibly standing for "Master" or "Meister" of Redding Furnace, on French Creek, in Chester County, Pa. (named from the English, not the American, town of Reading), founded, according to Swank, by Samuel Nutt, an English Quaker, before 1728, with William Branson and Samuel Flower, according to court records, part owners in 1742.

The plate, very much rusted, and showing a vertical warp crack in the pattern across the medallion, which does not appear on Mr. Stewardson's replica, Figure 161, was bought by the writer at Boone's at Pottstown in 1907.

161.

There can be little doubt that this plate, the Warwick plate, Figure 159, the Redding plate, Figure 156, and the Carlisle plate, Figure 162, described by Prof. C. W. Himes in "A Decorated Stove Plate East of the Susquehanna," Franklin Institute Journal, December, 1903, in all of which the style and details of the floral pattern above noted are closely copied, but never duplicated, were made by the same mould carver, who, as an independent workman, in the same year, 1764, sold three moulds, closely similar, but with varied inscriptions, to three different furnaces.

Replica, Mr. Emlin Stewardson, Abington, Pa., October 12, 1910, bought originally by Mrs. Walter Cope from the dealer, Mrs. Cookerow, at Pottstown, about 1905. Figure 161.

162.

The Carlisle Plate of 1764.

Side plate of six-plate stove. Size, H. 24¼ x W. 27¼. Pennsylvania Historical Society. The plate shows the typical floral pattern, with double canopy resting on twisted columns, and the date 1764. The sheep heads of the aureole on the left have turned to elongated darts, and, as in all the Stiegel plates and the Huber and Maybury plates, Figures 95 and 105, the customary religious inscription on the central cartouche has become an advertisement of the names of the ironmaster and furnace, continued in the lower medallion, M. R. THORNBRUGHA. M. SEANDSON. CARLILSE. FURNACE., for Robert Thornburg and Francis Sanderson, ironmasters in 1764 at Carlisle Furnace, or Carlisle Iron Works, at Boiling Springs on Yellowbreeches Creek, Cumberland County, Pa., built in 1762.

Prof. C. H. Himes (in "A Decorated Stove-plate of 1764 from West of the Susquehanna," Franklin Institute Journal, December, 1903), notices this plate, of which they have a rusty replica at the Hamilton Library Association at Carlisle, Pa., and which was in 1903 the only plate of this type thus far found and certainly cast west of the Susquehanna, as evidence of the extension of German art in a non-German community, where the German religious inscription was abandoned because not suited to the taste of the region.

Still more interesting is his observation of the striking similarity of the pattern to that of the "Depart from Evil" plate of Warwick, of 1764, Figure 159, which can be carried further by comparing the plate with the whole collection of illustrations here shown, in which five other plates, viz., the Samuel Flower plate, Figure 161; the Stiegel plate, Figure 127; the Benet plate, Figure 133; the Salvation plate, Figure 163, and the Stevenson plate, Figure 141-A, bear it on equal resemblance.

The similarity is not in the general detail of the design, since all are floral patterns, but in the treatment of the aureole. None of the plates are duplicates, but because the sheep heads are changed to darts on these six plates, because the aureoles are invariably accompanied here and nowhere else with peculiar twisted leaves wreathing the upper circle of the nimbus, and

this kind has yet appeared, nor has any mention been found of these stoves in the furnace ledgers above referred to. After 1760, in the Potts manuscripts, frequent mention of the sale of six-plate stoves, called at Warwick "Six-plate English Stoves," appears at Warwick and Pottsgrove; but, though Franklin describes them in 1744,[97] no certain evidence has yet been found to show either, that like the five-plate jamb stoves, these stoves were imported from Europe and used here before the American furnaces were built, or were manu-

because the above unique combination is accompanied in all cases by wheat-sheaf adornments above the spring of the arches (the spandrels), we may suppose that all six plates were made by the same mould carver, who was an independent workman not in the exclusive employ of any furnace, and having made the earlier five-plate stove moulds for Elizabeth and Hellam Furnaces, carved for Grubb at Cornwall, and sold three six-plate stove moulds to Thornburg at Carlisle, Flower at Redding, and Potts at Warwick, in the same year.

Yet if we are to suppose that all the furnaces bought their patterns in this way, notes of such purchases ought to appear in their ledgers, and it is a very singular thing that only one such item has been found in all the Potts manuscripts, where at Warwick Furnace, on July 25, 1745, they paid six pounds ten shillings, or sixteen dollars and twenty-five cents apiece "for two Dutch stove moulds," "in account with Mr. Grace," but without mentioning the carver's name.

The letter M, twice occurring before the names of the ironmasters, may stand for the word "meister" or "master," and the R. before the first name for Robert. Professor Himes supposes that the final A in "Thornburgha" may represent an abbreviation of the word "and," although if the name Thornburg had been pronounced to rhyme with the word Edinburgh, the final A would be accounted for, as the phonetic English spelling of a German or German-American workman, who, though a skillful designer, and fine carver of inscriptions in his mother tongue, misspells the, to him, barbarous names Thornburg, as THORNBRUGHA, and the word CARLISLE with a transposed S. The second letter in the second name may be an F, rather than an E, and in that case stand for Francis, set incorrectly after, rather than before, the initial S. of Sanderson, so that the inscription would read:

M (Master) R (Robert) THORNBRUGH (Thornburg).
A (And) M (Master) F (Francis) SANDSON (Sanderson).
CARLILSE (Carlisle) FVRNACE.

In Forges and Furnaces, Colonial Dames, page 173, the A. and M. after THORNBRUGH are thought to stand for Armstrong and Morris. But there were two Morrises; and if, according to Professor Himes, there were six partners in the firm in 1764, this would only account for four of them, unless the others appear on the missing front plate.

163.

In God is My Salvation.

Side plate of six-plate stove. Size, H. 24 x W. 22½. Collection of Mr. A. J. Steinman, 1910 at Lancaster, Pa.

"In God is my salvation," Psalm 62-7, is the theme of this floral plate, with its elaborate sheaf patterns above the twisted columns, lozenges, stars, heart tulips, and three-leaved branches unadorned by tulips, sprouting from the aureole. The sheeps' heads have been changed to spears and the inscription in the cartouche, Luther's translation of Psalms 62-8 (in the German) reads BEY. GOT. IST. MEIN. HEIL., while the words CORTUS. GROB. FOR., standing for Curtis Grubb Furnace, fill the lower medallion.

We may infer from the inscription that the plate was cast at the still existing Cornwall Furnace, on Furnace Creek, in Lebanon County, near Lebanon, Pa., where Curtis Grubb, probably in 1765 or soon after (Swank, 182), was ironmaster.

The well-preserved original, cast, therefore, after 1765, though without date, is set in a brick wall above the fireplace, in 1914, in the library of Mrs. A. J. Steinman. at Lancaster, Pa.

While the other Colonial furnaces that made decorated stoves have perished, Cornwall Furnace, built upon its very valuable sulphurous and copper-bearing iron ore hills on Furnace Creek, in Lebanon County, Pa., and which still used charcoal in 1892, though modernized, is still (1914) in blast.

According to Pearse, Iron Manufacture, 218, and Swank, Iron in All Ages, 182, Cornwall Furnace was built in 1742 by Peter Grubb (son of John Grubb, a Cornish emigrant) who, in 1745, leased it for twenty years to twelve persons not named, who operated it as the Cornwall Company. This company appears to have sub-let it, either, as Pearse confusedly states, to Jacob Giles, a Quaker of Baltimore (about 1755-65), or, according to Acrelius, quoted by Pearse, to Gurritt & Co., or Garrett & Co., about 1756. In the meantime, Peter Grubb having died intestate in 1754, the twenty-year lease fell by inheritance to his sons, Peter Grubb, 2nd, and Curtis Grubb, afterwards colonels in Washington's Army (Swank, 182; Pearse, 218).

With its immense bellows twenty feet seven inches long, and five feet ten inches wide, supplying six forges with pig-iron and making twenty-four tons per week it was held by the Grubbs, including Peter Grubb, 3d, son of the 2nd Peter, till 1798, when Robert Coleman, whose descendants still own the furnace, bought five-sixths of the valuable property from the Grubb family, some of whose heirs still hold the remainder.

164.

Fragments of Stove Plates.

Size, largest, 11 x 21 inches. Bucks County Historical Society, Nos. 789, 1514 and 1515. Described in "Decorated Stove Plates," page 11.

All three pieces are remarkable. The lowermost, evidently the side plate of a six-plate stove, while showing the usual flower-pots, chequers and tulip leaves of the usual floral pattern, has omitted the familiar canopy altogether, and filled the center with a flower basket, like that on one of the small fragments, but otherwise of unparalleled pattern, out of which spring unbalanced leaf scrolls set within the figures of the date, 1765.

The inscription on the upper left fragment, also probably part of a six-plate stove,

M. C. E. THOM.
MAS. SMIT.,

I have deciphered as standing for "Martic Eisen (or Eisenhutten), Thomas Smith"—as ironmaster and founder of Martic Furnace, on French Creek, in Northern Chester County, in 1751, see Figure 134. The two smaller fragments found together are evidently parts of one old stove, used in the last century at Nathaniel Shewell's Tannery, and were found by the writer in 1898 built into the spring-house wall at the Shewell house known as "Painswick Hall," New Britain, Pa. The lower piece, found in the waste-iron heap of Mr. Kenderdine, near Dublin, Bucks County, Pa., in the same year, must have belonged to another stove.

165.

Sixty-Seventh Psalm.

Side plate of six-plate stove. Size, H. 24¼ x W. 31¼. Bucks County Historical Society.

This unique pattern was found by the writer in a garden pavement near the gate at a farmhouse in Hilltown Township, Bucks County, Pa., in 1908, and bought for five dollars.

Strange to say, the inscription like that on Figure 46 is a misquotation. The words GOT. SEI. UNS. GNADIG. PSALM. 117., "God be merciful unto us, Psalms 117," should quote not Psalm 117, but Psalm 67, and the placing of the sentence across the top, instead of the middle of the pattern, the panelling of the plate into three rectangular decorated panels, chequered with three blank spaces, the wide swell of the two flower-pots, the thin petals of the flowers, and the extreme plainness of the whole carving, disconnect the plate from all the other patterns thus far found, and suggest rather the designs of old embroidery known as "samplers," or the decorative paintings upon emigrants' chests.

166.

The Conqueror.

Side plate of six-plate stove. Size H. 24½ x W. 26⅛ inches. Mr. Robert Rau, Bethlehem, Pa.

Under a series of clumsy decorative scrolls, only the forelegs of a prancing horse, with the lowered standard of a warrior, much obscured by rust, above the form of a small retreating animal, possibly another horse, are seen to the right, and in opposition to the advance of a kingly figure on horseback, holding a drawn sword. These figures appear as if upon a narrow, undulating road, quaintly indicated by diagonal lines set between parallel stripes.

The plate, described in "Decorated Stove Plates," page 19, was found for the writer in 1897 by Mr. Robert Rau, in a lumber room in Bethlehem, Pa.

Replica: Col. H. D. Paxson, Holicong, Bucks County, Pa., 1914.

167.

The German Hunter.

Back plate of six- or ten-plate stove. Size, H. 24½ x W. 14¾. Bucks County Historical Society.

The channeled marginal rims are here cast as two columns, but without the arched canopy. Between them a bearded man on horseback, with cocked hat, top-boots and sword or boar knife, holds a horn in his left hand.

A dog runs below, and a realistic eagle wearing a crown, dates the plate as older than the era of American Independence, when the crown would not have been used.

The eagle evidently stands for the single-headed heraldic eagle of Prussia, and the rider with the dog, for a huntsman, rather than a soldier, while the sword stamps him as in chase of the deer or wild boar, rather than as an English fox-hunter, whose now famous sport had not become popular until about 1750. The horn is neither bugle nor trumpet, but the melodious soft-toned brass hunting horn, the waldhorn of Germany, or Corne de Chasse of France, blown by vibration of the lips.

Replica: June, 1914, found in an old house at Langhorne, Bucks County, Pa.

167-a.

Back Plate of Six-Plate Stove.

Size, H. 23¼, W. 12¾. Mr. A. D. Mixsell, Twelfth Street and Prospect Avenue, Bethlehem, Pennsylvania, September 21, 1914. Found at a junk dealer's yard in Bethlehem, where it had been discovered in a pile of scrap iron fifteen years ago, and nailed to a wall as a curiosity.

The very uninteresting plate shows the date 1764 set upon a raised cornice between two hideous shell-like scrolls, and because of the lateness of its manufacture and its extreme narrowness in proportion to its height, we may suppose it to be the rear plate of a six-plate stove rather than the front of a Jamb Stove.

168.

Thomas Rutter of Colebrookdale.

Side plate of six-plate stove. Size, H. 19 x W. 23. Philadelphia Museum, Memorial Hall, Fairmount Park, Mus. No., '08—691. Replica, Col. H. D. Paxson (1911), Holicong, Pa.

Probably a part of one of the last six-plate stoves, made in the ancient style after the introduction of ten-plate stoves, about 1765, or about the date of the abandonment of the Colebrookdale Furnace. Nothing remains to suggest the familiar characteristic floral pattern, but the position of the central cartouche or rimmed stripe of inscription, crossing the middle of the plate, and the larger medallion below it, shaped in the usual way. The inscription clearly spelled, as if by an English workman, without suggestion of German adornment, abbreviation, or mis-spelling, COLEBROOKDALE FURNACE. (in Colebrookdale Township, Berks County, Pa., named after Colebrookdale Furnace in Shropshire, England, and the earliest furnace in Pennsylvania, built in 1720), replaces the religious motto in the cartouche, while the name, abbreviated as in English, THO. RUTTER. (born 1731, died 1795, grandson of Thomas Rutter, the founder and ironmaster, in 1720, see Figure 157), fills the lower medallion. The plate closely resembles the tasteless Figure 169, and was no doubt carved by the same mouldmaker. The lower background is bare, and clumsy scrolls and scallops take the place of the tulip-filled cavities of the upper field.

factured contemporaneously with the jamb stoves by American furnaces in the first half of the 17th century.

ABANDONMENT OF SIX-PLATE STOVES.

Moreover, all the evidence shows that the existence of the six-plate stove thus constructed and decorated was brief, lasting little more than ten years. The earliest American plates in the collection (Figures 152 and 153) are dated 1761 and the latest (Figure 172) 1772, while the Potts manuscripts note them by name as made in 1760 at Warwick Furnace and last sold at Pottsgrove Furnace in 1768. The stove appears to have been an afterthought, appearing at the last moment, and, in its decorated form, as here described, aban-

169.

Thomas Maybury of Hereford.

Side plate of six-plate stove. Size, H. 20 x W. 25. Hon. S. W. Pennypacker, at Schwenksville, June 30, 1910.

Nothing of the familiar floral pattern remains except the general arrangement, showing three panels, in the lower of which the large medallion is inscribed with the name of the ironmaster, THOMAS. MAYBURRY., while the central cartouche shows the words HEREFORD. FURNACE. Whoever carved the displeasing pattern, Figure 168, probably carved this also, as both are arranged in the same way. A meaningless scroll and two corner scrolls fill the upper panel. Pillars, arches, tulips, flower pots, religious mottoes and symbolic aureole have all gone.

The ten-plate stove, Figure 180, is marked Thomas Maybury, Hereford, while the eccentric five-plate pattern, Figure 105, is cast with the name Hereford between the initials W. M., probably for William Maybury, and if it were not for these uninteresting plates, and an old piece of pig-iron found at the bottom of a well at Hereford, Berks County, Pa., now at the Berks County Historical Society, marked with the name Hereford, the very existence of the obscure Hereford Furnace, on the West Branch of Perkiomen Creek in Hereford Township, Berks County, Pa., might be doubted. Swank and Pearse make no mention of it, but, according to Old Charcoal Furnaces in Eastern Berks County, by Winslow Fegley, an old map, published in 1753, shows that the Hereford works, now long in ruins, stood there at that time.

Swank speaks of a Thomas Maybury making sheet-iron at Mount Holly Forge, in New Jersey, destroyed by the British in 1775, another Thomas Maybury building Green Lane Forge, on Perkiomen Creek, Montgomery County, in 1733, and another Thomas Maybury petitioning the General Assembly of Pennsylvania, with a number of iron-masters, for a protective duty on iron, in 1785.

The William Maybury, of Figure 105, appears to have been a Justice of the Peace, shareholder at Shearwell Furnace, at Oley, in 1760, and early ironmaster in Berks County, according to Mr. B. F. Owen, and Swank says that a Jonathan Maybury and Co. owned Fountain Forge in Donegal Township, Westmoreland County, Pa., before 1812.

Replicas: (1) Bucks County Historical Society, bought at H. Worthington's furniture store, September 7, 1911.

(2) Col. H. D. Paxson, Holicong, Pa., Aug. 6, 1913.

170.

Stiegel of 1769.

Side plate of six-plate stove. Size, H. 18½ x W. 23. Col. H. D. Paxson, Holicong, Pa.

171.

The plate and its rusted companion, the replica Figure 171, with its spray of flowers springing from a three-pointed scroll wreathed in floral scrolls, and with the date 1769, and the words H. W. STIEGEL., marks the appearance of a new and insignificant style, and the subversion of the old religious art of the pattern carver.

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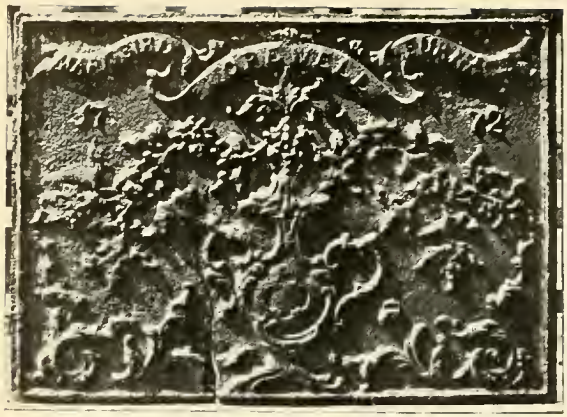
doned almost immediately upon its introduction, but its principle, which is that of all modern house-warming stoves, whether burning coal or wood, survives.

Any stove with smoke pipe and fuel door, like all modern American house stoves now in use, may be called a draft stove, and it is probable that other exceptional and eccentric



172.

Mark Bird of Hopewell.

Side plate of six-plate stove. Size, H. 21 x W. 29. Col. H. D. Paxson, Hol'cong, Pa.

Upon a ribbon above the pattern, the ironmaster, MARK BIRD, has set his name with that of HOPEWELL FURNACE, on French Creek, Union Township, Berks County, Pa., erected according to Swank, by William Bird, in 1759, or by his son, Mark Bird, about 1765. William Bird died in 1761, and Mark, thereafter owner, a Lieutenant-Colonel in the Revolution, became bankrupt in 1785-88. The meaningless plate with its mass of floral filigree, lacking all religious or emblematic significance, and all semblance of the older decorative style, is without interest save for its date, 1772. That shows that the plate was cast after the general introduction of ten-plate stoves, with interior ovens, and fixes the time of the downfall of the ancient art of stove decoration described in these pages.

A complete stove, minus the legs, comprising this plate is illustrated in Colonial Forges and Furnaces, Colonial Dames, Philadelphia, 1914, page 156.

173.

The Fox and Crane.

Side plate of six-plate stove. Size, W. 22 x H. 19¾. Young Men's Missionary Society, at Bethlehem, Pa.

To illustrate Æsop's celebrated fable of the Crane who had been cheated out of a dinner by the greedy fox the picture shows the bird with uplifted wings feeding from a narrow necked vase, while the outwitted fox, sitting close to the left, looks hungrily on.

The figures are well modeled, but the vaulted canopies of the German stove plates are here abandoned for a framework of scrolls, which near the upper margin enclose the words BATSTO, showing that the heavy open sand cast plate, though found at Bethlehem, was made, strange to say, not in Pennsylvania, but at Basto Furnace, on Little Egg Harbor River, Burlington County, N. J. (founded by Charles Read in 1760 and abandoned in 1846), where it may have been cast by William Reynolds who (according to Pearse, page 54) was employed there as founder in 1768 to 1784.

If any jamb stoves were ever cast in New Jersey they would have been produced by furnaces in existence before 1760, namely either at Shrewsbury or Tinton Falls Furnace in South Monmouth County, founded 1682, at Mount Holly, or Hanover Furnace, Morris County, 1730 to 1776, at Ringwood or Ogden Furnace, Passaic County, 1740 to 1776, at Oxford, Warren County, from 1742 to 1782, or at Union, Hunterdon County, 1750 to 1778. But all the jamb stove plates thus far found in New Jersey have been cast in Pennsylvania, and we have as yet only this plate and Figure 177, both side plates, not of the earlier jamb stove, but of the later six-plate or draught stoves, as the only evidence of decorated stove casting during the colonial period in question thus far heard of by the writer in New Jersey. (But see Figs. 88-b and 88-c.)

174.

The Hero.

Side plate of six-plate stove. Size, H. 23 x W. 25. Pennsylvania State Library, at Harrisburg, Pa.

The inscription, H. W. STIEGEL. ELIZABETH. FURNACE. 1769., appears plainly along the top of the plate, while in the lower corners the Masonic emblems, a rule and compass, on the left, are balanced by a square and what seems the rude, miniature outline of a furnace with its smokestack on the right, possibly indicating an association of Stiegel and his furnace with the Freemasons.

A human bust crowned with victorious laurels and enclosed in a laurel wreath, showing the berries of the Laurus nobilis, adorns the middle plate forming the center of the pattern.

Nothing in the reign of George the Third in 1769, nine years after his accession, and six years after the ending of the French and Indian War by the Treaty of Paris in 1763, seems to justify the laurel wreath and the framework of the medallion, and if we do not ascribe the bust to the king we may perhaps more reasonably suppose that Stiegel, the prosperous manager of Elizabeth Furnace and Charming Forge, maker of

Manheim and founder of the only glass works in the American colonies, employer of two or three hundred workmen, with his carriage and outriders, private orchestra, castles and mansions, here attempts to represent himself as a conqueror of difficulties or a pioneer of enterprise in the heydey of his prosperity, six years before diaster and bankruptcy overtook him in 1774.

According to Dr. J. H. Sieling's paper on "Baron Henry William Stiegel," before the Lancaster County Historical Society, September 4, 1895, New Era print, Lancaster, 1896, and other authorities, Heinrich Wilhelm Stiegel came to America in the brig Nancy in 1750, lived until 1765 in Philadelphia, married Elizabeth, daughter of Jacob Huber, master of Elizabeth Furnace, in 1752, and in partnership with Alexander and Charles Steadman bought the furnace of his father-in-law in 1757 (Swank, page 180).

Stiegel and his company pulled down the old furnace with its rhyme:

"JOHAN HUBER DER ERSTE DEUTSCHE MANN
DER DAS EISENWERK VOLFUHREN KANN."

"Johan Huber, the first German man who can manage ironworks," inscribed upon the smokestack, and built a new furnace on or near the same spot, named Elizabeth, after Stiegel's wife, and from which the township afterwards took its name. Elizabeth Stiegel, who died February 3, 1758, leaving her husband two female children, was buried in the Lutheran graveyard at Brickerville, but the inscription H. W. HELM. STIGCHELS. IN. COMPANGNI. VOR. ELIZABETH. (Figures 121 to 126) is not, as Sieling supposes, in mourning for her, which is proved by the word VORNES on Figure 126, but rather his advertisement as part manager with a company, for the furnace. Sieling asserts, page 47, on the authority of William Taylor, master of Charming Forge, living in 1896, that Stiegel's first stoves were jamb stoves with the inscription BARON STIEGEL. IST. DER. MANN. DER. DIE. OFEN. GIESEN. KANN. "Baron Stiegel is the man who can cast stoves," but no such stove or plate has been found, neither is it probable that Stiegel was a baron; and though he once signed himself von Stiegel, it appears that he never signed a document as baron.

Sieling says that Dr. Joseph Dubbs, of Franklin and Marshall College, found evidence that a Baron Stengel left Manheim for America in the late 18th century, but failed to find the name Stiegel in the Manheim records. Mr. Luther M. Kelker, of Harrisburg, a descendant of Stiegel, supposes that he was not a baron and has a devotional book of Stiegel's brother, Anthony, inscribed GEBOREN AUS KOELLEN (Cologne) AM RAEINN (Rhine), indicating that the family came from the latter city and not, as Sieling supposes, from Manheim.

In 1759 Stiegel married his second wife, Elizabeth Holz, of Philadelphia. In 1760 he bought half of Charming Forge, and in 1762, in partnership with the Steadmans, above noted, founded Manheim.

He visited the furnace from Philadelphia once a month in a coach with postillions and a pack of hounds, when cannon were fired off at his "castle" and an orchestra of workmen serenaded him from the cupola of his Manheim house. The latter, decorated with tiles and tapestry, with its chapel and pulpit, was built in 1763-65 with English imported brick. He had another mansion at Elizabeth Furnace, and had built a wooden tower seventy-five feet high on a high hill near Shaferstown, to entertain his friends, and, according to Sherman Day, had another tower or castle about five miles northwest of Ephrata.

He built the glass works at Manheim in 1765-68, then the only factory of its kind in the British colonies. He mortgaged his share of the company's property to Daniel Benezet in 1768 and bought out the Steadman's share of the Manheim enterprise in 1770 for 107 pounds. He had brought 40,000 pounds sterling with him from Europe and invested it in his enterprises, reaching the zenith of his prosperity in 1769, the date of the plate here illustrated.

He was imprisoned for debt in 1774, but released and permitted to continue Elizabeth Furnace for his creditors until 1778, when his efforts finally failed.

He moved to Brickerville, and taught school at the age of forty-eight in 1781 at Womelsdorf. In 1782 his second wife died, and his own death followed at the age of fifty-three in 1783. He was probably buried at Brickerville church.

Two holes have been bored through the plate here illustrated, as if for the insertion of bolts, to hold the stove together. It was found in an iron scrap-heap about 1900 at R. Blickenderfer's foundry in Lancaster, Pa. (Information of Mr. S. M Sener, Lancaster, Pa., 1909.)

175.

Be Liberty Thine.

Side plate of six- or ten-plate stove. Size, H. 25½ x W. 32½. Col. H. D. Paxson, Holicong, Pa., December, 1913.

This is the boast characteristic of a time when men mistook their new Independence for Liberty, and with the

forms of draught stoves, like Stiegel's "Pommerofen," made at Elizabeth Furnace in Pennsylvania in 1757 (Figure 225), which is an American copy of the Pommerofen of Germany above mentioned, existed as importations or were made at the colonial furnaces in the 18th century.[54]

But it is the remarkably decorated rectangular, box-shaped, portable stove, standing free of the wall, without upper story, made of six heavy open sand cast plates, which alone concerns this investigation.

A few box-shaped, rectangular, wood-burning stoves of six plates continued to be made during and after the American Revolution,[55] but there is no mistaking their plates, such as Figure 175 or Figure 177, made at Batsto Furnace in New Jersey and dated in

latter word continually in their mouths, delighted to preach that which might not be practiced.

An angel flying in clouds and holding a blazing torch, announces, with blast of trumpet, the motto, on a ribbon above. BE LIBERTY THINE to two seated figures, on the right an Indian under two stalks of reed or palm, with a dog like a greyhound, and with bow, arrows and quiver, on the left to Minerva with her shield, or to the genius of Wisdom or America, rather than to the poor negro slave, who is left out altogether.

The two cross borders may indicate an attempt to balance in decoration an oven door opposite, and hence show that the plate belongs to a ten-plate rather than to a six-plate stove. The liberty proclamation would not have been produced before the Revolution, while the classical details and curtained festoons in the Adam style, fix the date of the casting at about 1785 to 1800.

176.

The Rising Sun.

Side plate of six-plate stove. Size, H. 18¼ x W. 23¼. Berks County Historical Society, 1913. Found walled in the chimney of a small house in Alsace township, Berks County, Pa.

The artistically decadent pattern showing the name of the furnace, over a figure of the sun rising or setting upon the sea, marks the end of the period of stove decoration herewith described, and proves that the plate was cast at Berkshire Furnace near the site of the present Robesonia Furnace in Heidelberg Township, Berks County, Pa., during the period of the existence of the former, viz: between 1756 and 1792 (see Montgomery, 62, and Figures 44 and 45), probably about 1770, or possibly under the management of George Ege, who was master in 1789 and perhaps earlier.[24]

177.

The Squirrel Hunt.

Side plate of six-plate stove. Size, H. 23 x W. 25¼. Mr. W. L. Lathrop, New Hope, Bucks County, Pa., who showed and described the plate at a meeting of the Bucks County Historical Society in 1913.

Without religious significance or trace of the conventional treatment of the Bible plates, the design shows the figure of a hunter with a dog, as he points a gun at a squirrel in a tree, while three birds fly away overhead.

The name and date on the scroll below show that the plate which is one of four decorated stove plates thus far found and here illustrated as made in New Jersey, was cast in 1770 at Batsto Furnace in Burlington County on the Little Egg Harbor River (founded, according to Pearse, page 54, and Swank, page 156, by Charles Read in 1766; abandoned in 1845), probably when William Richards, afterwards owner in 1784, was employed as founder.

1770, with their modernized patterns, English inscriptions or patriotic mottoes for the older original patterns here described. Neither is there any danger of confusing the ancient stoves, unmistakable in construction and decoration, with the other draught stoves of the post-Revolutionary period, of lighter make, with flask cast plates, of sheet iron or soapstone, or of eccentric form, sometimes box-shaped and with the fire chamber in one piece, which as frequently embellished with hideous and meaningless filagree, survived them until the present time.

The immediate cause of the disuse of the decorated six-plate stoves was not any improvement in their casting, or the theory of their construction, but rather the introduction of an internal oven for baking, with a large oven door in one or both side plates, which suddenly transformed them from stoves which only warmed the house, into the so-called "Ten Plate" stove, which cooked food and warmed at the same time.

178.

The Two Swans.

Side of six-plate stove. Size, H. 23½ x W. 26½. Colonel H. D. Faxson, Holicong, Pa.

Two geese or swans swim in a pool between water plants, surrounded with a rococco scroll border, and above a ribbon scroll inscribed with the words PINE GROVE FURNACE.

If what appears to be a date with the figure 6 for its third numeral has been cast just below this scroll, standing therefore for some year in the 1760's, Pearse, 192, and Swank, 185, must be wrong in asserting that Pine Grove Furnace, in Cumberland County, was built in 1770, and the furnace may be a few years older. Swank says that Thorburg and Arthur built it, and sold it before 1800 to Michael Ege, Sr., and Pearse, page 192, notes that it was the last furnace in Pennsylvania to blast with the old wooden blowing-tubs, which it continued to do until abandoned about 1870. But Mrs. Rose says (Forges and Furnaces, Colonial Dames, 186) that George Stevenson owned the property from 1764 to 1772.

Prof. Charles F. Himes has a ten-plate stove in the hall of the Hamilton Library Association, at Carlisle, Pa., inscribed PETER EGE. PINEGROVE FURNACE.

179.

George Ross of 1765.

Size, W. 27 x H. 24. Side plate of ten-plate stove. Dr. Park Brenneman, of Lancaster, Pa. Found at the old Fountain Inn, at Lancaster.

The plate, showing the opening for an oven door, is dated 1765, and since, before that time, the Pennsylvanian colonists had cooked food in the open fire and not in stoves, the plate is of great economic importance as showing the side of one of the first effective cooking stoves used in the colonies.

Here, as the illustration shows, a six-plate stove of the type of Figure 180 has been fitted out with an internal oven for cooking, and since the oven required four more thin plates for its construction, the stove, named after the number of its plates, is no longer a "six-plate" but a "ten-plate" stove, from 1 the top, 2 bottom, 3 right, 4 left, 5 front, 6 back plates of its outside, and 7 the top, 8 bottom, 9 front, and 10 back plates of its inside construction.

The name of George Ross, lawyer, of Lancaster, Pa., and signer of the Declaration of Independence, is plainly cast above the oven door, on either side of which appear the figures of the date, 1765, when Ross was ironmaster at Mary Ann Furnace, on Furnace Creek, Manheim township, York County, Pa. (founded in 1763 by George Ross, George Stevenson, William Thompson, and Mark Bird), where the plate was probably cast. See Fig. 141-A and Note 26.

THE TEN-PLATE STOVE.

Few greater changes ever took place in the American household than when the once universal art of cooking food in the open kitchen fire was abandoned. This finally happened when the coal-burning cooking stoves of cast iron, with adjustable lids exposing the fire for boiling, broiling and frying, appeared about 1840.

The earlier decorated stoves, previously described, the soft coal heating grates, introduced when English coal was imported into the colonies about 1750; Franklin's down-draft fireplace of cast iron, introduced by him in 1743, and several other later eccentric and exceptional forms of stoves, referred to in American books, letters, and newspapers of the 18th century, but not described here, used for warming houses and public buildings rather than for cooking, had no effect upon the primeval art of the open fire cook. But the stove known in Pennsylvania as the "Ten-plate Stove," which, though not prepared to boil, broil or fry by immediate contact of dishes with the fire, was equipped to bake meat, cakes, pies and bread on a small scale, and thus partly replaced the large household bread oven of masonry. For a long time it was used as an auxiliary to the open fire, near which it stood with its sheet iron stovepipe let into a hole

The shape of the large tulips and the use of a small tulip for spacing the inscription are characteristics of the carvings on the decorated six-plate stoves, which were then still being cast, but the large foliate circle and elaborate quatrefoil below are unique, and the whole design shows that the sudden introduction of the oven door has paralyzed the hand of the pattern carver. The chief point of interest in the plate is the fact that it marks the abrupt end of the ancient art of stove decoration, which originated in Germany in the 16th century, was transplanted to America, and survived here for about fifty years.

It may appear later that the energetic Stiegel, well and justly praised for industrial activity and enterprise, who established the glass works at Manheim and copied the old German Pommerofen in 1759, was the first to introduce the ten-plate cooking stove, but the evidence thus far found does not prove it.

The confused statement in Watson's Annals, Vol. I, page 218, that ten-plate stoves were invented and made in Penosylvania before Franklin's fireplace, i. e., before 1742, is undoubtedly wrong. No one to the writer's knowledge has heard of an American ten-plate stove earlier than 1765, the date cast on this plate marking it as the earliest of its kind; or, in other words, as evidence of perhaps the first effective cooking stove thus far found in the United States.

Figure 185, however, clearly shows that the ten-plate cooking stove had existed since the middle of the 17th century, at least in Holland. Therefore, neither Stiegel nor any other American ironmaster could have invented it, as Ellis and Evans' History of Lancaster County supposes Stiegel did. Neither can it be contended without further proof that Stiegel even introduced it, since William Smith, ironmaster of Martic Furnace, 1751-1766, according to his ledger, in possession of Mr. B. F. Owen, of Reading, sold a ten-plate stove to Bangor Church, at Churchtown, Berks County, Pa., in 1766, for 4 pounds 2 shillings sixpence, and since the earliest known Stiegel stove, dated 1769, Figure 182, is preceded by the Maybury stove, Figure 180, dated 1767, and this Ross stove of 1765.

180.

Thomas Maybury of 1767.

Ten-plate stove. Size 36 long x 34 high x 24 wide. In possession, 1910, of the Michigan Stove Co., of Chicago.

The bottom plate, with projecting hearth, is fastened to the top by three long bolts penetrating perforated marginal lips, as in the case of the single bolt of the five-plate stove. A door opens on either side of the oven, 14½ x 12 inches, and the front plate shows a wrought-iron door without draught wicket, and a small upper door for cleaning the flue above the interior oven. A stove-pipe hole appears in the top plate. Scroll work surrounds the side door and decorates the back and front, as seen also in Figure 182.

The stove thus photographed on both sides, see Figure 181, is interesting, because certain of its decorative features have survived from the older five- and six-plate stoves; namely, the method of bolting the top to the bottom plate, the solid gutter-shaped rims on the front and back plates, the arrangement of the inscription in a central cartouche, with the words HEREFORD. FURNACE. 1767., and the shape of the lower medallion enclosing the name Thomas Maybury, who was, therefore, ironmaster at Hereford Furnace, in Hereford Township, Berks County, Pa., where and when this stove was cast in 1767.

181.

Thomas Maybury of 1767.

Reverse of Figure 180.

A replica of this complete stove but with the date changed to 1768, is in the possession of Col. H. D. Paxson, at Holicong, Pa. and is illustrated in Forges and Furnaces, Colonial Dames, page 133.

We learn little of Hereford Furnace and of William and Thomas Maybury who owned it from the writers (Swank, Pearse, Fegley, etc.) listed in the notes. Its three products here shown (see also Figs. 105 and 169) comprising all three kinds of ancient colonial stoves ("Jamb," "Six-Plate" and "Ten-Plate) are all uninteresting. They show no religious and very little artistic motive. All advertise the Furnace, the last two showing also the name of Thomas Maybury, and the first (Figure 105) the probable initials of William Maybury who may have founded the works.

182.

Stiegel Stove of 1769.

Ten-plate stove. Size about 36 long x 27 high x 15 wide. Mr. G. H. Danner, Manheim, Pa. Illustrated in "Decorated Stove Plates," Figure 20.

Six very heavy plates of cast-iron surround the internal oven consisting of four plates, forming an internal box, coinciding with the side door, around and over which oven the smoke and flame pass. The whole stove is decorated with leaf scrolls, and the words H. W. STIEGEL cast above, and ELIZABETH FURNACE, and the date 1769, below the oven door. In front, below the little soot-cleaning door, and above the fuel door, which latter has a draught wicket, the pattern of a house with its chimney and porch, is encircled with scroll work. The legs are cast in the form of scrolls,, and the grooved rims at the corners in the form of columns, as in Figure 167, are cast solid upon the front and rear plates. As in Figure 180, two side bolts and one rear bolt fasten the stove together.

The very economic and ancient German method of utilizing the smoke heat, by including several lengths of the stove-pipe inside the stove, is here applied in the form of a heat-retaining cylinder attached to the smoke-pipe on the outside.

183.

Ten-Plate Stove.

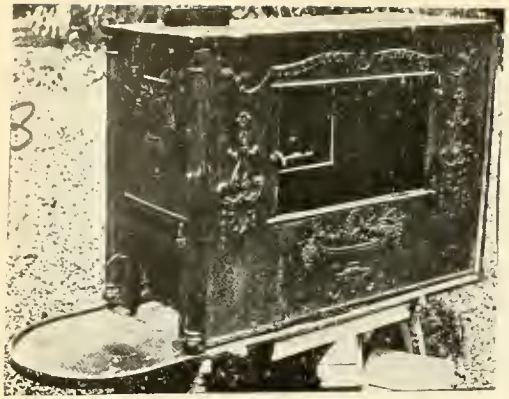
Size about 28 long x 24 high x 20 wide. Pennsylvania State Library, at Harrisburg.

The general form of the stove resembles that of Figure 182, but the decorative treatment is more modern, moreover it is clamped together by four marginal bolts instead of three, and as the side plates are slightly curved they must have been cast in flasks. A design resembling the classic ceramic patterns of Josiah Wedgwood adorns the side plate below the door, above which the words Elizabeth Furnace are cast in an entirely novel manner below the upper margin. A sheet-iron cylinder for retaining the heat, perhaps a later addition, is placed upon the smoke pipe above, as in Figure 182. The side door opens towards the back and the front door has a draught wicket. There is little about the stove to suggest its relationship to the five- and six-plate stoves which preceded it. The precise and small letters of the words ELIZABETH FURNACE cast over the oven door appear to have been glued upon the pattern in the modern factory manner, and have lost all trace of the hand carver's style of the older stoves.

in the chimney above the hearth. But it never superseded the ancestral cooking fire. This latter continued, as before stated, until when towards the middle of the 19th century the coal-burning cooking range, with removable lids, finally extinguished it forever.

But the ten-plate stove chiefly concerns this subject, because appearing suddenly about 1765, it immediately displaced the ancient decorated stoves above described, put an end to the decoration of stoves in general, and therewith may be said to have marked the end of the artistic casting of iron.

Which American furnace introduced this stove and exactly when it first appeared, the writer has been unable to learn. The oldest plate (Figure 179) thus far in the writer's knowledge found in Pennsylvania, was probably cast at Mary Ann Furnace in West Manheim Township, York County, Pennsylvania, and is dated 1765, when George Ross, whose name is cast on the plate, was iron master there. Thomas Maybury cast Figures 180 and 181 at Hereford Furnace in 1767, Stiegel cast Figure 182 at Elizabeth in 1769, and these illustrations and figures show the



184.

Ten-Plate Stove.

Size 35½ inches long by 15 wide by 27 high. Col. H. D. Faxson, Holicong, Pa.

One oven door opens from left to right, the other from right to left, while in the Maybury stove of 1767 both doors open in the same way. Otherwise the bolting, position of stove-pipe and of fuel and cleaning doors, is similar. The plates of the interior oven and all doors but one are lost.

The decoration has lost all interest and significance. Over the oven door, the words COLEBROOK FURNACE are not to be confounded with old Colebrookdale, the former being a comparatively modern furnace seven miles southwest of Cornwall, on Conewago Creek, Lebanon County, built according to J. M. Swank (Iron in All Ages, page 196), in 1791, by Robert Coleman. Another ten-plate stove inscribed COLEBROOK, without date, is in possession of Mr. B. F. Owen, at Reading.

185.

Dutch Ten-Plate Stove.

Size in centimeters, 0.54 long x 0.76 high x 0.31 wide. Rijks Museum, Amsterdam. By kind permission of Dr. B. F. Van Riemsdyk.

American ten-plate stove in its earliest typical form. The whole construction is that of the six-plate stove, with the exception that an internal rectangular oven is inserted in the stove box, over the fire, consisting of four thin cast iron plates, fitted upon interior channels (and coinciding with the openings of the oven in both side plates), so made as to permit the heat of the fire to pass entirely around the oven and to leave the stove through the smoke pipe set in the front end of the top plate. The front plate is perforated with a fuel door below, and a small door for cleaning the soot above the oven. The bottom plate has the hearth extension, as in the six-plate stove, and the stove is bolted together generally with three, sometimes with five, vertical outside bolts, in the fashion of the older stoves, and as described under the illustrations.

But like the "Pommerofen" stove (Figure 225) cast by Stiegel at Elizabeth Furnace in 1769, this stove was not an American invention, but had long been known and used in Europe, as is shown by Figures 185-186 from the Rijks Museum at Amsterdam.

In this case the old and richly decorated stove equipped with its internal oven for baking, with its smoke pipe and its small door for soot cleaning, shows only one oven door on one side plate where an original design intended to cover the whole plate has been cut into or encroached upon by the iron caster for the insertion of the door.

But the American stoves had oven doors on both sides and the technical difficulties

The stove, dated 1660, and showing the whole construction of an American so-called "ten-plate" stove, proves that the latter was not invented in the American colonies, but existed in Holland a hundred years before its introduction into Pennsylvania.

The bottom plate is without hearth extension, and the top plate, perforated for a stove pipe not shown in the photograph. The legs are missing and the corner rims are loose. The doors are lost, but their orifices with the hinge hooks are clearly shown, namely, those for the right oven door, the fuel door and the soot door. For the interior oven, which has no door on the opposite left side, see Figure 186, the plates are missing. According to Dr. Van Riemsdyk the style of decoration of the stove is of the late 16th century, or about a hundred years older than its date, 1660, and the fact that the oven and soot door orifices have been introduced so as to cut across and obliterate the original design shows that the caster has made a new stove from old moulds by redating the latter and by either sawing out holes in them, or correcting their impressions on the sand to suit the case.

186.

Dutch Ten-Plate Stove.

Reverse of Figure 185.

With interior oven for cooking. Size, 0.76 centimetres high by 0.54 long by 0.31 wide. In the Rijks Museum at Amsterdam. By kind permission of Dr. B. F. Van Riemsdyk, who informs us that the stove is dated 1660, though probably made from a much older mould. The lower fuel door is original, but the cleaning orifice above it, and the large oven door shown in the reverse, Figure 185, have been cut or cast across the pattern, without regard to the design. The exceedingly heavy top plate, which shows no holes for insertion of diagonal bolts, was probably held in place by its weight alone. The pipe-hole in the top plate is not shown, the original legs are lacking, and the highly ornamental corner rims showing each the heads of two bolts, are loose.

Here we have a very early specimen of what is called in America a ten-plate stove, which appears to have been manufactured from patterns used in casting a six-plate draft stove, and which having been made in 1660 would precede the manufacture of the American ten-plate stoves herewith described, by a hundred years.

187.

Undree and Company.

Side plate of ten-plate stove. Size not given. Colonel H. D. Paxson, Hollcong, Pa.

The advertisement UDREE AND COMPANY shows that the plate, without date, was cast after 1778 at what has been called by Montgomery and others, Oley Furnace, on Furnace Creek, Oley Township, near Friedensburg, Berks County, Pa., but the investigations of Mr. B. F. Owen, of Reading, show that two furnaces rather than one existed at this site, the first, called Shearwell built by Deitrich or Deiter Welker, who had bought land at the site in 1744, probably between that time and 1760, and who remained sole owner until 1760, when Benedict Swoope bought a share and became part owner. See the stove-plate Elijah and the Ravens, Figure 57.

Oley Furnace proper, according to Mr. Owen, was built by Christian Sauer and Jacob Winey, in 1772, as is proved by the date stone so marked, now in the Berks County Historical Society, and originally in the smoke-stack of Oley Furnace. Daniel Udree, probably with others, here referred to as the "company," bought Oley and probably Shearwell with it in 1778. He built a fine mansion near the furnace and died in 1838.

Both furnaces, Shearwell and Oley, standing side by side, were in existence in 1783, as when seen by the German army surgeon, Dr. John B. Schoepp, in that year, he speaks of two smokestacks rather than one. Mr. Owen has not learned the date of the abandonment or demolition of Shearwell Furnace, but Oley, though now demolished and nearly forgotten, was in existence in 1884.

thus presented of mutilating the old patterns by cutting door holes in three of the vertical plates helps to explain why the new stoves were not decorated in the old way, and hence since the new stoves superseded the old, why the old art of stove decoration came to so sudden an end. The American plate (Figure 179) shows that in one at least of the earlier

188.

Ten-Plate Stove of Durham.

Size, H. 25½ x W. 32½.

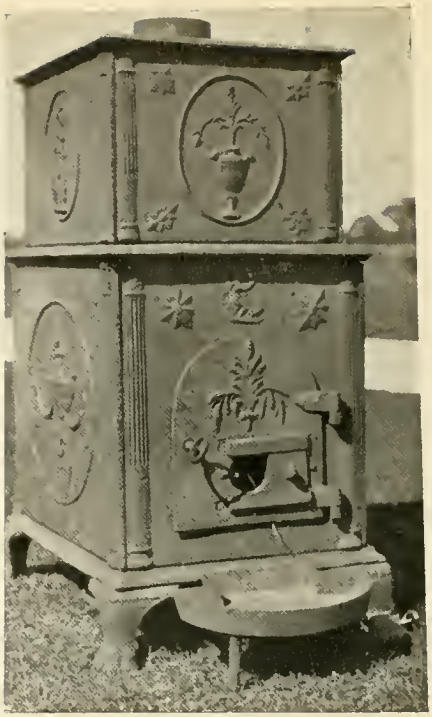
The inscription R. BACKHOUSE. DURHAM. set over the oven door and the date 1785 flanked by scroll-work on the side plate, show that the stove was cast after the Revolution at Durham Furnace in northern Bucks County, Pa., when Richard Backhouse was ironmaster. Its side and the end plate are shown, the latter decorated with a single tulip springing from meaningless scrolls, is bordered by two ornamental columns cast so as to cover the guttered rims. A replica of the side plate, and also the fragment of a similar plate showing the words Backhouse and Durham are at the Bucks County Historical Society.

189.

Ten-Plate Stove.

Size, H. 27¾ x W. 37½. Pennsylvania Museum, Fairmount Park, Philadelphia, Pa. Museum No., '13, 64.

The arms of Pennsylvania appearing below the wrought-iron oven door, show that the uninteresting stove was made after the Revolution. So does the advertisement DISTRICT FURNACE on a scroll above, showing also that the stove was cast at the post-colonial District or German Furnace on Pine Creek, District Township, Berks County, Pa., erected, according to Montgomery, page 70, after the Revolution and before 1800, possibly before 1784, and probably owned by John Lesher, his son, Jacob Lesher, and John Teysher.



190.

Canadian "Three Rivers" Stove.

Size not given. Mr. John J. Drummond, Midland, Ontario, Canada, 1914. Bought by Mr. Drummond at Three Rivers about 1890, and kindly photographed by him October 25, 1913, showing its front, Figure 190, back Figure 191, right, Figure 192, and left, Figure 193.

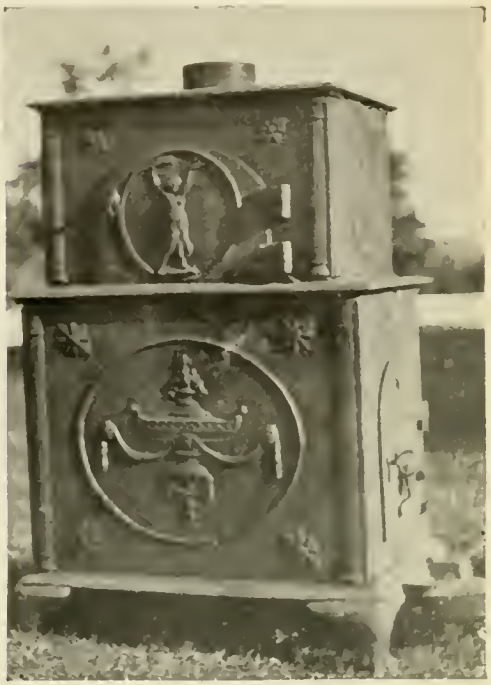
191.

Like the ten-plate stoves of Pennsylvania, this stove is a draft stove, adapted for cooking, with fuel door, oven door, smoke pipe, legs and internal baking oven, made of three or four inner plates. But several differences of construction appear. The main box or body consists of two differently sized stories instead of one, and hence the entire stove is made of fourteen or fifteen instead of ten iron plates. The very massive doors, if not the hinge hooks, are of cast, not wrought iron, and the disk-shaped hearth extension is cast free of the stove. The legs are of the modern American type. There are no outside bolts and the side plates do not seem to be clasped by the grooved marginal rims, as in the Pennsylvanian stoves.

192.

As we do not know when stoves of this general type, which first appeared as ten-plate stoves in Pennsylvania about 1765, were introduced into Canada, we must infer the date of this stove, not from its construction, but from its decoration, which is of the very characteristic and prevalent style developed from designs on ancient carved gems, after drawings of Flaxmann (employed by Wedgewood in 1775), Adam and others about 1780.

Far more artistically designed than any of the Pennsylvanian ten-plate stoves, the well-balanced decoration might have been made with loose stamps, but made thus late, the stove throws little light on the earlier French Three Rivers stoves, which,



193.

according to Peter Kalm, were in use all over Canada in 1749, which were seen by Franquet as cast in six plates in 1752 (quoted by Swank, Iron in All Ages, page 350), and none of which could have been decorated in this then unheard-of style.

Several inquiries have failed as yet to inform the writer of the existence of loose plates of these ancient stoves, thus certainly made at Three Rivers Furnace between 1737, the date of its establishment, and 1770. But as decorated stove plates of a similar date have survived in Pennsylvania, they must have

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stoves of this class some effort was made to retain the ancient tulip pattern or reconstruct it so as to surround the door hole with a decorative framework. But attempts of this kind must have been soon abandoned. The American Revolution, occurring shortly after the introduction of the stoves, interrupted the traditional dependence of American furnaces on European processes. The ten-plate stove, as the first effective cooking stove, was a great novelty. Its usefulness widely extended its sale and introduced it to English colonists, who had not used the older stoves, and to whom the German art of stove decoration was unfamiliar and the German inscriptions meaningless.

As time went on artistic deterioration increased with technical improvement in flask-casting, fittings, thinness of plates, and rounding of forms, until the whole process of iron casting had so lost its art that for nearly a century no one in America has looked for a beautiful pattern in cast iron, and until the farmhouse stove, once so artistic, interesting and instructive, has become repulsive.

survived in Canada, where the stove fashion was probably introduced, not from Germany, but from northern France and Flanders.

Whether these old stoves were all as Franquet describes them, of the draft or six-plate type, and so made from the beginning, or whether some of them were jamb stoves, whether any of them were decorated with inscriptions or more or less significant or religious pictures, are interesting questions which the writer believes cannot long remain unanswered.

The old charcoal furnace of St. Maurice, about two miles west of the village of Three Rivers in the Province of Quebec, Canada, which used a very soft superficial ore found in the neighborhood, was built in 1737, and was abandoned on exhaustion of ore and fuel in 1883. It was managed by a French company, Cugnet & Cie, 1737 to 1743. By the French Crown, 1743 to 1760, owned and often underlet to various companies by the British Crown from 1760 to 1846, sold to Henry Stuart in 1846 and owned by F. McDougall & Son in 1879.

Peter Kalm, as above noted (quoted by Swank, page 349), says that they cast stoves there in 1749, in use all over Canada, and M. Franquet, reporting to the French Government in 1752, says that he saw them casting stoves in six separate pieces. Joseph Bouchette, author, says that they were making "stoves of all kinds, used in the province," at Three Rivers in 1815. (Swank, page 350.)

Ancient Dutch Ten-Plate Stove, dated 1660. At the Rijks Museum, Amsterdam.

See Figure 185.

CHAPTER III.

Notes on Colonial Firebacks, Date Plates and Miscellaneous Stoves.

At the time of the settlement of the American colonies, firebacks, that is to say, heavy plates of cast iron (rarely of clay in Flanders) two or more feet square, generally decorated with coats of arms, dates, inscriptions, allegorical and mythological scenes, and placed against the wall in an open hearth back of the fire, had been in use in England, Holland, Flanders, France and Central Europe since the middle or end of the 15th century.

Exactly where or when they were first used or invented are questions which remain in doubt, since no general or extended study of them has yet been made, but it appears from scattered and local collections in Europe that the oldest specimens are undated, that according to Beck (Geschichte des eisens, Vol. II, page 308) one dated 1488, afterwards destroyed, was seen about 1850 at Ravengiersbach in Hesse, and that no dated fireback has been found in England earlier than about 1580.

Whatever their origin, they differ entirely in purpose and generally in appearance from stove plates. Though some of the old European specimens are square, most of them, and all thus far found in America have rounded scrolled or vaulted tops, and all, like the stove plates, appear to have been cast in open sand from carved wooden moulds.

With the exception of the remarkable radiating firebacks of Luxembourg, Taques De Foyer described under Figures 218 to 221, which may be called stoves of one plate, all

200.
The Goddesses.

Fireback. Size, H. 26¼ x W. 16¼. Essex Institute, Salem, Mass.

The much-rusted pattern shows three classical figures in a central panel, under a vault adorned with dolphins, surrounded by a rich festoon of flowers. Below the date, 1697, encloses a

monogram with the letter W, and an indecipherable inscription on the lower margin shows the letters PALA. and NOV.

The fireback was found in the cellar of a house where it could not have been used, in Salem, Mass., and must have been imported or cast from an imported original or mould. This is proved by the fact learned through the kind information of Mr. G. F. Dow, that a replica imperfectly illustrated by L. A. Shuffrey, in The English Fireplace, London, B. T. Batsford, 1912, page 44, is in the museum at Rochester, England, where the curator writes that the fireback is Dutch, or in the Dutch style then in vogue, that the lower inscription reads PALLAS. JUNO. VENUS., explaining the figures in the picture, and that the monogram enclosed by the date is WM., standing for William and Mary.

201.

The Pickering Fireback.

Size, W. 28 x H. 22. Essex Institute, Salem, Mass. By kind permission of Mr. G. F. Dow.

The fireback was obtained about 1870 from Mr. John Pickering at the house 18 Broad street, Salem, known as the Pickering house, built in 1659-60.

The pattern, undoubtedly cast from an imported English mould or carved in New England by an English mould carver, showing scroll work of the marked Elizabethan style, dated 1660, and with the initials I A P, standing for John and Ann Pickering, original settlers, shows a general similarity in the form of the vertical spindle-shaped ornaments to one of the designs illustrated by Starkie Gardener in Iron-casting in the Weald, Archæologia, 2d Series, Vol. 5, page 158, Figure 24, as cast at English furnaces in the so-called Weald district of Kent, although according to a tradition in Mr. Pickering's family, it was cast by Joseph Jenks, an English founder, at the old Lynn or Braintree, Mass., Furnace, founded in 1645 and in blast in 1660.

202.

Fragment of Fireback.

Size, H. 22 x W. 17½. Senate House, Kingston, N. Y.

This lower right fragment shows a King, with robes, sword and crown, who kneels with protesting gesture, under a curtain, framed in a heavy border of melons, pomegranates and fruit, enclosing the date 1661 set upon a scroll at the bottom. Notwithstanding the fact that the Lynn Furnace in Massachusetts, built 1645, abandoned 1688, and which probably cast the fireback, Figure 201, in 1660, was in blast at this time, no furnaces existed in 1661 in New York, New Jersey, Pennsylvania, Maryland or Virginia, and there can be little doubt that the fireback was made in Germany, Holland, France or England and imported into the Dutch Colony which was not conquered by the English until 1664.

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have been constructed and used only as decorations for or protections to the wall back of the open fire, and while a stove may be called an economical necessity and a rival to the open fire itself, the iron fireback is a superfluous ornament not necessary for the retention of heat.

Although long common in Holland, Flanders and France, and not unknown in Germany, the fashion of their use in the American colonies came, not like that of the stoves from Germany but from England, and while a few may have been introduced from Continental Europe, their patterns in the Anglo-American colonies followed that in England, where Starkie Gardner, in Archæologia, Vol. 56, Part I, page 133, notes several styles without fixed chronology, namely (1), Moulded from Loose Stamps until about 1640, (2) Coats of Arms, royal and private cast from single moulds, (3) Allegories, badges, illustrations of current events, satires, etc., (4) Bible scenes introduced from Germany and Flanders, (5)

203.

Adam and Eve Fireback.

Size, H. 24½ x W. 22¾. Essex Institute, Salem, Mass.

Adam and Eve under the fatal tree with the serpent.

Judging from the shape of the casting, which lacks the characteristic arched top of English and American firebacks, from the style of the design, and in particular from the shape of the right and left margins, we might suppose that we have here a recast of the front plate of a German jamb or wall stove of the 17th or early 18th centuries. If so, the pattern has probably been imported to America from Continental Europe, modernized in date, and used as a fireback. Unfortunately no definite information as to its origin or acquisition has appeared at the Essex Institute.

The figures of the dates 1770, repeated on either side of the tree, and the welts as of the edges of boards surrounding them, are not identical as they would be in each case if these dates had been stamped upon the sand from loose stamps. We infer, therefore, that the casting was made not from an iron plate, but from a wooden mould of the style of Figure 14, probably flattened on the high ridges and orificed to fit two boards carved with the date, which have warped above the back ground level.

204.

Painswick Hall Fireback.

Size, H. 35½x W. 32. Bucks County Historical Society, No. 1204. Found by the writer in 1897 in the parlour fireplace of the old house formerly belonging to the Shewell family, known as Painswick Hall, near Doylestown, Pa.

Under two dolphins forming the upper outer margin, two cornucopias from which fall festoons of flowers make the border of the central picture. But the handsome and well-designed pattern is too much rusted to justify its description in Decorated Stove Plates, Figure 15, as representing Esther before King Ahasuerus. We can hardly think that a pattern like this could have been designed at any of the Pennsylvanian furnaces after the beginning of the 18th century. The robed figures, curtains, flowers, cornucopias, roped border and dolphins (characteristic of Anglo-Dutch firebacks of the 17th century), are modeled in a style at least a hundred years earlier than the period of the establishment of furnaces in Pennsylvania or New Jersey, and indicate that the plate or its mould, if not designed in New England, was either imported from Europe or recast from a European original.

A replica is at the Historical Society of Pennsylvania, at Philadelphia, 1914.

Flemish firebacks higher than wide, with rich borders, dolphins, cupids, flower pots, mythological scenes, victories, emblems, satires, etc.

It was after Flemish firebacks came into vogue in England, and after European stove plates had been introduced there to serve as firebacks, that the fashion sprung up in America, where the styles in vogue in Old England were repeated in New England and the other colonies to suit the fancy, not of the comparatively few German settlers in the Middle States, but for the English-speaking colonists everywhere.

Consequently as colonial blast furnaces existed throughout the whole colonial region, and as owing to the superabundance of wood, open household fires were universal even in the stove region of Pennsylvania, there can be little question that the ancestral English fashion of setting firebacks in fireplaces existed everywhere, and that old firebacks can

205.

The Stag Hunt.

Fireback. Size not given. Senate House Museum, Kingston-on-the-Hudson, 1912.

Under a festoon of flowers and above two decorative scrolls two horsemen, one of whom holds a sword, ride towards each other, and three dogs run across the lower foreground of the pattern, while the fleeing stag is scarcely seen in the upper right corner behind one of the horsemen.

Two seams marking warps in the wooden pattern pass vertically down the design through the body of the middle dog and across the lower scroll work.

206.

Cupids and V Fireback.

Size, H. 29 x W. 20½.

Photograph obtained in 1912 by Miss Westbrook from an original at an old house at Kingston-on-the-Hudson.

Above two very prettily modeled floral festoons, suspended from ribbons, two flying angels support a wreath above the letter V.

be found through nearly the entire region of the original thirteen colonies.

The oldest firebacks in the collection here shown are dated 1660 and 1661, and although we cannot prove that these particular specimens were cast in America, nevertheless, if as we have seen, the first American decorated stoves were cast in Pennsylvania (probably at Colebrookdale Furnace not before 1720), then American firebacks are older than stove plates, since we may suppose that some firebacks were cast at Lynn and Braintree Furnace in Massachusetts, founded about 1645, at New Haven, founded in 1658, or at Shrewsbury, N. J., in 1682, or about fifty years before the making of the first stoves in Pennsylvania.

On the other hand, as the fireback was not adapted to open fireplaces constructed of cast iron for burning coal, but depended on the existence of the open wood fire, and as this latter was not generally superseded by soft coal grates in England until about 1740-1800 and by coal stoves and coal grates in America until about 1840, we must suppose that the American firebacks continued in use later here than in the mother country and that they certainly continued to be cast after the demolition (about 1770 to 1790), of the old decorated five- and six-plate stoves here described.

A large and general grouping of the American firebacks would be needed to enable

207.

Kingston Fireback.

Size, about H. 27 x W. 24. Senate House, Kingston, New York.

The plate in two fragments, with its four rosettes and spray of flowers and curved top, has been cast in the open sand.

208.

The Graeme Park Fireback of 1728.

Size, H. 26½ x W. 19½. In possession, 1912, of Miss Mary M. Penrose at the old house known as Graeme Park, in Horsham Township, Montgomery County, Pa., built by the Colonial Governor, Sir William Keith, about 1721.

With curved top, and the date 1728 set upon a raised cartouche between two floral festoons, the comparatively small plate has been cast without a flask, and shows three circular spots just over the date, which seem to have been obliterated in the sand, or cut off the wooden pattern.

The design is uninteresting, but not so the date. That places it together with the Fortune stove plate, Figure 31, and the Stenton Fireback, Figure 209, among the earliest dated fire apparatus cast in Pennsylvania, at a time when, according to a statement of James Logan, quoted by Swank, we have to choose between four furnaces, namely, Colebrookdale, Christine-Redding, Keiths and Durham, as the only ones then in existence, and therefore the only ones that could have cast it.

At first sight it appears to be a replica of the Stenton fireback of I. L. of identical date, Figure 209, but, closely inspected, differs from the latter in every detail. Moreover, when Mr. B. F. Fackenthal, Jr., formerly manager of Durham Furnace, analyzed both plates in September, 1912, he found too much manganese and too much copper in the Graeme Park specimen to class it with the Stenton fireback, and since the latter, as he shows, was probably made at Durham, this was not, but rather at Keiths Furnace, on the Christiana River, in Delaware, where Governor Keith, according to a letter of Emanuel Swedenborg, quoted by Swank, had established a furnace about 1725, and conducted it for three years thereafter, or until the ore ran out.

If so, and as Davis says, History of Bucks County, page 426, Sir William Keith returned to England in 1728, then this fireback which, according to a tradition cited by Davis, was placed in one of the upper fireplaces by Dr. Graeme, Keith's son-in-law, on Keith's departure, may be one of the last castings made at the Governor's unsuccessful furnace.

209.

The Stenton Fireback of 1728.

Size, H. 27¼ x W. 18½. At the Colonial House, called Stenton, at Wayne Junction, Philadelphia, built by William Penn's Secretary, James Logan, in 1728.

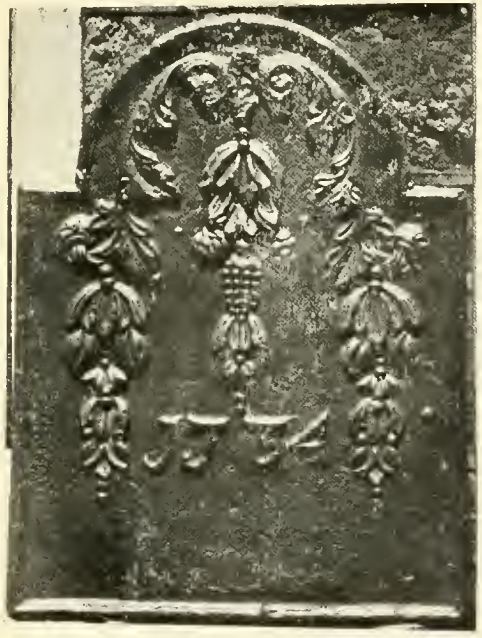
It would be unreasonable to suppose that the initials I. L. cast on this fireback above the date 1728, set on a raised block,

and possibly stamped on the sand with a loose stamp, stand for anybody but James Logan, Colonial Secretary for William Penn, who built Stenton in 1728, and probably placed the fireback in the house.

When the latter, with its floral festoon, closely but not exactly resembling that on the Graeme Park fireback, Figure 208, was cast, only four furnaces were as yet in existence in Pennsylvania then, including part of Delaware, namely, Colebrookdale, founded in 1720; Christine (predecessor of Redding), founded before 1728; Keiths, in Delaware, in 1725, and Durham, in 1727.

This fact, based on a letter of James Logan, quoted in Swank, page 170, marks this otherwise uninteresting pattern as one of the first castings made in Pennsylvania.

It belongs to a series of eight other firebacks, all adorned with the same, or a very similar festoon, and with or without initials, and the date 1728, and Mr. B. F. Fackenthal, Jr., formerly manager of Durham Ironworks, has shown that three, and therefore probably all of these castings, were made at Durham Furnace for the following reasons: Because all were found together in old fireplaces at Stenton, because James Logan, the I. L. of the initials, who built the house in 1728, and probably set up the firebacks, was one of the original owners of Durham Furnace, founded by him and others in 1727, the year before, and would not have had his firebacks cast elsewhere in 1728, and lastly, because Mr. Fackenthal's chemical analyses of the Stenton plates show that they agree in two decisive items with the peculiar ores of Durham, which latter, like the Stenton firebacks, contain almost no manganese and no copper at all.



210.

Valley Forge Fireback or Date Plate.

Size W. 20 x H. 27. Washington's Headquarters, Valley Forge, 1912.

Dated 1734 and with its floral festoons somewhat resembling the Stenton fireback, Figure 209, the plate was said to have been found about 1895, set as a date plate in the outer gable of an old house about one mile from Valley Forge, formerly the headquarters of the American General, Lord Stirling, during the Revolutionary encampment of 1776.

Another extremely heavy plate of similar shape, at the Bucks County Historical Society, nearly 2 inches thick, removed about 1900 from the gable of an old house destroyed by fire about 1890, formerly belonging to Joseph M. Laurie, at Yardville, near Trenton, N. J., shows that, as in this case, dated castings of this sort, whether originally intended for firebacks or not, were sometimes set in the outer walls of houses as date plates.

Replica, Dr. Wm. T. Sharpless, West Chester. Illustrated, page 60, Forges and Furnaces in Province of Pennsylvania, for the Colonial Dames, Philadelphia, 1914.

211.

John Potts Fireback or Date Plate.

Size not given. Col. H. D. Paxson, Holicong, Pa.

The date, 1741, plainly appears above the name of the ironmaster, John Potts, here spelled plainly in the English manner at a time when Potts was ironmaster at Warwick Furnace, when the floral stove patterns had not yet appeared, when as yet no Biblical stove plate thus far found had advertised the name of master or furnace, and when the makers of jamb stoves at any of John Potts' furnaces would have spelled his name IAHN. POT.

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us to understand the subject and fix these dates, but our meagre collection, made only in Pennsylvania, Massachusetts, New York and New Jersey, is too small and local to warrant any general classification of their styles or deduction as to their origin and age.

Here we find, as yet, no square firebacks and none made with loose stamps or bordered

212.

The Horseman and Convicts.

Fireback. Size, H. 23¾ x W. 17½. Essex Institute, Salem, Mass. Given by Mr. Nathan Pierce.

As the most interesting of all the firebacks herewith illustrated, it seems unfortunate that no definite information can be obtained as to the origin and history of this singular, allegorical pattern, in which an elegantly dressed figure seated upon a prancing horse brandishes a sword just drawn from its uplifted scabbard, and overrides a band of ten chained prisoners, preceded by a small figure on horseback and a sentinel, and followed by two other sentinels holding the gang-chain.

The characteristic coat, cocked hat, laced cuffs and large queue bow of the horseman, reasonably place the date of the pattern between 1750 and 1776, and if it were cast in America we might infer that the sentinels with their pointed caps are British soldiers, and that some New England furnace has ventured to satirize George the Third in his alleged attempt, after the landing of British troops at Boston in 1765, to "dragoon" the colonies.

If cast in Europe, the fireback may be a satire upon forced methods of military enlistment either in England or under Frederick the Great in Prussia where only the sugar-loaf grenadier caps were worn.

But whether made in England, continental Europe or America, the rich border is in the Flemish style, which, according to Gardner, above quoted, page 161, became fashionable at the English furnaces about 1689.

213.

Arms of England Fireback.

Size, H. 34 x W. 34. Bucks County Historical Society.

The fine spirited carving with lion, unicorn, crest, crown and legend of the Garter, differing entirely in style and treatment from the workmanship of the Pennsylvania German stove-plates here illustrated, shows the word Oxford cast upon the lower left margin, for Oxford Furnace, in Warren County, New Jersey, and the date 1746, when, according to Swank, Jonathan Robeson was ironmaster there.

J. P. Snell, in his History of Warren and Sussex Counties, New Jersey, says (page 78) that he has seen several similar firebacks marked for Oxford Furnace and dated 1747 and later, and the writer has seen or heard of several replicas and close copies, as follows:

1. Pennsylvania Historical Society, with words Oxford, 1754, on the lower margin.

2. Copy with variations, with words Oxford, but no date. Pennsylvania Historical Society.

3. Figure 214. Copy with free variations. Photographed in 1908, when in possession of Mrs. Hallam, dealer (successor to "Noah's Ark"), at Bristol, Pa. (See Figure 214.)

4. Copy with variations at Moon Hall, near Valley Forge, in possession of Mr. Henry Pennypacker, June 30, 1910.

5. Ditto. 4 and 5, walled in outer wall of a back porch and found in pulling down an old wood-burning heater in the cellar. 4 and 5 possibly like 3.

6. Replica, dated 1746. Col. H. D. Paxson, Holicong, Pa.

7. Ditto.

8. Copy or replica at Memorial Hall Museum, Philadelphia.

9. Copy or replica as fireback in possession of Mr. Penrose, at Graeme Park, Montgomery County, Pa., 1912.

10. Copy or replica in 1910 at Washington's Headquarters at Moorestown, N. J.

Figure 213 was found in one of the parlor fireplaces at the old Cox house near Bushington, Bucks County, Pa., in 1908. That the original pattern was made in England and brought over seems probable. Oxford Iron Works made their first pigiron on March 9, 1743, and soon after began casting firebacks.

214.

Arms of England Fireback.

Size, about H. 35 x W. 33½. G. M. Hallam, dealer, Bristol, Pa., 1910.

At a first glance this fireback appears to be a replica of Figure 213, but on examination all the details vary. Without the evidence of a possible inscription on the lower margin, which is rusted away, we may infer that it, like Figure 213, was cast at Oxford Furnace, Warren County, New Jersey (founded in 1742, abandoned 1882), and belongs to a series of firebacks slightly varying in size, but of generally similar pattern cast there between 1745 and 1758. Some are and some are not inscribed on the lower margin with the name Oxford and the date. But the dates vary, and two moulds, at least, if not more, have been used in producing the series, so that if one was brought from England, others no less excellent were probably made here by an unknown mould carver whose beautiful work, differing widely from that of the more original stove plates, seems to surpass them in composition and artistic skill.

215.

Fireback of Colebrookdale.

Size, H. 34 x W. 29½. Metropolitan Museum, New York.

Here we have for the first time the familiar American floral pattern with the date 1763 and the inscription COLEBROOKDALE. FURNACE. cast, not upon a stove plate but a fireback. A sun with divergent rays fills the upper semicircular area, the sheep heads have become points, lacking the dart ends, and the lower panel is here feebly decorated, not with the usual medallion, tulips and inscription, but with a hatched lozenge and four scallops, as upon the Warwick ten-plate stove, Figures 143 and 148.

The collection has abundantly shown that this floral design, as we have called it, including the peculiar aureole and sheep legs, for a few years after 1756, exercised a universal fascination on the American stove makers, who, with a few exceptions, embodied it on the front and side plates of their five- and six-plate stoves, and because this pattern, as explained in the text, has not been heard of in Germany, and because the lettering of the inscription, the modified sheep legs, the tulip flowers, and the decoration of the spandrels, closely resembles that upon the other Colebrookdale stove plates, namely, Figures 155 and 157, this fireback ought not to be ascribed to Colebrookdale (now Coalbrookdale) Furnace, in Shropshire, England, founded in 1709 and still existing in 1914, where, according to letters recently received from the management, no records or patterns are preserved to show the casting of any such design, but rather to Colebrookdale Furnace, in Berks County, Pennsylvania, founded in 1720, and therefore the earliest furnace in Pennsylvania where, according to the Potts manuscripts and our own collection, numerous stove plates and firebacks were cast at the date in question, and for many years before.

216.

The Horseman.

Fireback. Size, H. 30 x W. 23. Mr. Nathaniel T. Kidder, of 69 Ames Building, Boston, Mass.

A man in the dress of a clown stands on the saddle of a galloping horse, with a bridle in his right hand, and a horn in his left, while he kicks with his right leg in the air. A balanced pattern of conventionalized foliage, upon two stalks springing from the lower right and left corner of the plate, surrounds the

picture, above which are cast the words JOHN. SHIP. FAMOUS. HORSEMAN., while on the lower rim the initials BA and the date 1774 plainly appear.

Mr. Kidder found the fireback near Boston, and there can be no doubt that the casting, which shows no resemblance to the German work herein described, was made by English workmen at one of the old Massachusetts, Connecticut or Rhode Island furnaces then in blast (Taunton, 1725-1840; Plympton, 1720; Charlotte, 1758; Lennox, 1765-1881; Hope [Rhode Island], 1725; New Haven, Conn., 1658; Lime Rock, Conn., 1740-1890.)

217.

The Highlander.

Fireback. Size, W. 21 x H. 32. Museum of the Huguenots, New Paltz, N. Y.

Between two pedestals surmounted with conventional flowers stands a figure which, judging from the ribbed stockings, military frogged vest, cloak or plaid, buckled on the right shoulder, bare knees and apparent kilt, may be supposed to be a Highlander in the uniform of the British Army of the 18th century. A heavy plume adorns his bonnet, his broadsword drawn from its scabbard is uplifted in his right hand, while in his left he holds a remarkable object shaped like a shield, between the open bars of which his hand appears. Above appears the inscription AT NEW YORK, 1767. The arched top is adorned with dolphins and the whole pattern is surrounded with a rich Flemish border.

The plate was found in the State of New York, but dated long after the abandonment of the colony by Holland, and though adorned with a rich Flemish border, surmounted by dolphins, might have been made at one of the New York furnaces in the Flemish style then in fashion in England and the Anglo-American colonies.

217-a

Date Stone.

Size not given. State Library, Harrisburg, Pa. Found in a field in Elizabeth Township, Lancaster County, Pa., and obtained for the Library by Mr. L. M. Kelker.

The well-designed and balanced pattern, with its stars, hearts and tulips, shows no familiar feature in the decorative treatment, except the characteristic tail of the numeral I in the date, otherwise the pattern carved in stone which might well have adorned a stove plate, is entirely distinct from all the stove designs yet found.

If used at Elizabeth Furnace, near the site of the discovery, its date, 1765, shows that it must have marked some other event than the founding of the works, which Jacob Huber established in 1742.

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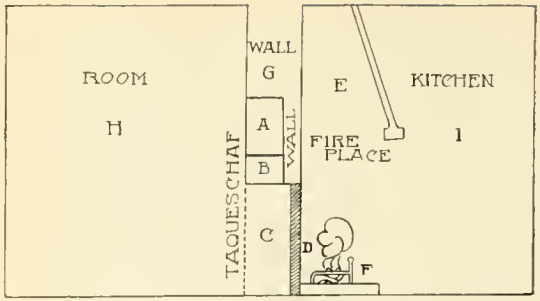
with the impress of waxed rope pushed into the sand. Neither are there any grave slabs of cast iron shaped like firebacks, but rather a series of date plates exactly resembling them set originally in the gables of old houses. As yet we find national rather than private coats of arms, amusing fancies, monograms, allegories, mythological scenes, with here and there a pattern whose Flemish character shows not necessarily that it was imported direct from Holland, but rather that it might have come from England or might have been cast at one of the old American furnaces at a time when Flemish firebacks were the fashion here



218.

Radiating Fireback of Belgium.

Sketch showing the reversible fireback known as Taque de Foyer of Luxemburg in its position.

The drawing, kindly furnished by Mr. F. Loes, Librarian of the Archaeological Institute of Luxemburg, shows in vertical section the Taque de Foyer in its original position, walled in a hole back of the kitchen fireplace, so as to radiate heat and present its decorated side into the lower compartment of a wooden cupboard constructed in the thickness of the partition wall. The decorated side of the fireback shows in the lower compartment of the cupboard and the radiated heat passes into the room containing the cupboard, when the double wooden doors or sometimes curtains of its lower compartment are left open. The plain side of the fireback generally fronts the kitchen fire, but sometimes the cupboard. Mr. Loes says that wall hooks visible on the kitchen side were used to hold the taque flush with the wall back of the fire.

A, B, C. Taqueschaf or cupboard or dresser in three compartments in thickness of wall between two rooms.

A. Upper compartment probably containing shelves, closed with double wooden doors.

B. Middle compartment forming shelf or buffet with front single panel opening outward.

C. Lower compartment closed with double doors or curtains and warmed with the fireback or Taque de Foyer D. When the doors or curtains are open, the heat passes into the room H.

F. Kitchen hearth and fire.

G. Partition wall.

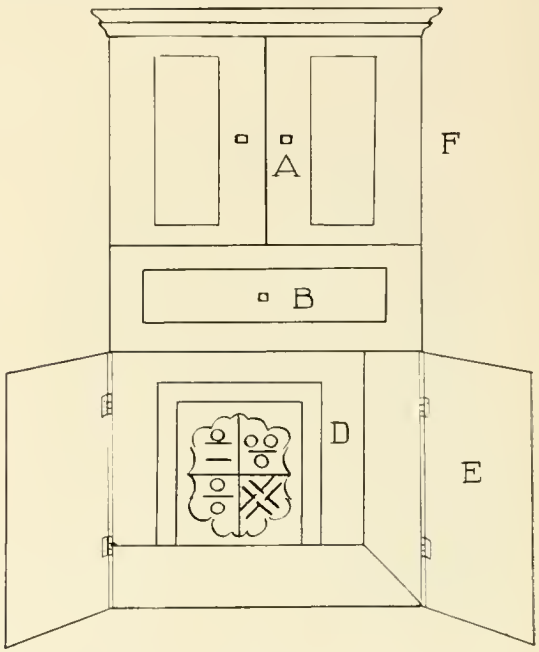
H. Room opening upon taqueschaf.

I. Kitchen.

E. Fireplace.

D. Taque de Foyer or taque or radiating fireback walled in or hooked against the partition wall back of the fire, often with decorated side facing the cupboard or taqueschaf.

As to the exact shape of these firebacks or Taques de Foyer and whether as loose plates they can be distinguished at sight from ordinary English or American firebacks, whether they were invariably constructed with extra broad margins for wall insertion, whether they were always square and never round, and whether all the firebacks illustrated in Sibenalers' book "Plaques et Taques de Foyer, Arlon Bruck 1904," where, unfortunately, most of the margins have been cut by the photographer, were radiating firebacks of this kind, we are left in doubt. Mr. Loes assures us that Sibenalers' mutilated Figure 17 with extra broad blank margins was so used.



219.

Belgian Taqueschaf or Fireback Cupboard.

From drawing kindly furnished by Mr. F. Loes.

Taqueschaf or wooden cupboard walled in the thickness of a partition wall immediately back of the kitchen fireplace, showing the original position of the reversible fireback known in Luxemburg as Taques de Foyer.

A. Upper compartment closed with wooden doors.

B. Middle compartment with front opening outward as a single panel, forming a shelf.

D. Lower compartment, showing decorated side of the Taque de Foyer which, heated on the undecorated opposite side by the fire, radiates warmth into this compartment when its doors E are open.

F. Partition wall.

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because they were the fashion in England.

Just as the German stove plate was imported into England and used as a fireback, here the stove plate of the Pennsylvania German served the same purpose in the fireplace for the English colonist, and that fact helps to explain why stove plates have been, and are still called "firebacks," where every one is familiar with an open fire, but not one person in a hundred knows what a stove plate is.

220.

Belgian Fireback Cupboard or Taqueschaf.

Showing radiating fireback in its original position at the Restaurant Schenken at Ansembourg, Luxemburg, Belgium. Photographed May, 1914, by M. Lucien Sibenaler, by kind permission of M. J. B. Sibenaler, of Brussels. As explained under Figure 219, the fireback acting as a heat radiator faces the lower compartment of the cupboard or taqueschaf, here lacking doors or curtain. The fireplace showing the undecorated side of the plate in another room has been walled up (1914).

The square plate, size not given, is emblazoned with the Arms of the family of Hollenfels, Lords of an ancient castle so named, still in preservation on a hollow rock in the Valley of the Mersch, Grand Duchy of Luxemburg. A replica of this plate is described and illustrated by J. B. Sibenaler in Taques et Plaques de Foyer, Arlon Bruck, 1908, page 22.

The style and workmanship of the firebacks is generally superior to that of the stove plates. But it is very different in character. The meaning is lacking. Instead of a series of designs illustrating events in Biblical history and following a fixed religious ideal accompanied by Scriptural mottoes—a sermon in iron, we have household decoration.

221.

Fireback Cupboard or Taqueschaf.

Called also Placard in Northern France. Showing the radiating fireback or Taque de Foyer, size not given, in its original position in the Concierge's room at an ancient hospital at Longwy, department Meurthe et Moselle, France. Photographed May, 1914, by Dr. Coliez, of Longwy, by kind permission of M. J. B. Sibenaler.

The square plate decorated with a classic scene in the style of Louis XV shows its decorated side in the lower compartment of the cupboard here furnished with wooden doors. When photographed, a coat of white paint had to be removed.

The writer learns from M. Siebenaler and Dr. Coliez that no radiating fireback of this sort has ever been found decorated on both sides, and that the decorated side sometimes faced the kitchen fireplace. It further appears that few, if any, of these plates are still, 1914, in use as radiators, or still remain showing both sides in their original position. In this case, the kitchen fireplace enclosing the undecorated reverse of this plate has been walled up.

These interesting photographs (220 and 221) as showing two of the last remaining examples of "Taques de Foyer" in their original position in Luxemburg and France, were taken in June, 1914, probably at the latest possible moment, since the writer's correspondence concerning them with M. Sibenaler, then at Brussels, was suddenly interrupted by the stoppage of the Belgian mails on the outbreak of the great European War, when Belgium and Luxemburg were overrun, Longwy demolished by cannon and the quiet of Ansembourg disturbed by the roar of invading armies.

Miscellaneous Stoves.

225.

Stiegel's Cannon Stove.

Cylindrical draught stove of cast iron. Size, diameter at base, 18½; height, including legs, 57. Mr. James Spear, 1014 Market street, Philadelphia, Pa.

Cast in three circular drums and supported on four legs, the stove shows the words H. W. STIEGEL 1759, upon the lower drum, in the rear of which is the fuel door not seen. The smoke pipe orifice enters the rear of the middle drum. Both the upper drums are adorned with tulips. Here Stiegel, two years after coming into control of Elizabeth Furnace, has reproduced and cast in flasks the stove known in Germany as the Pommerofen, which, according to Kassel, who illustrates one in Ofenplatten im Elsass, page 60, were made in Germany in the 18th century and probably earlier, and may have been named after Wolfgang Pommer, of Nurnberg, who obtained an Imperial privilege for a wood-sparing cook stove in 1582.

Sibenaler (Taques et Plaques de Foyer. Arlon, 1908, page 170) illustrates another more elaborate specimen dated 1742, but probably cast from moulds made a hundred years earlier.

The stove, Figure 225, was exhibited at the "Founders' Week" in Philadelphia in 1908, and was seen by the writer in 1910 at Spear's stove store, 1014 Market street, Philadelphia, Pa. Watson says, Annals, Vol. I, page 218, that "cannon stoves," "upright cylinders looking like cannon," came out in 1752 at Colebrookdale Furnace, and the Potts manuscripts show that a "round stove," possibly a Pommerofen, weighing 1921 pounds and costing two pounds eight shillings, was cast and sold at Colebrookdale in 1735, fifteen years before Stiegel came to America.

According to a brief statement made by Esther Singleton in "Social Life in New York Under the Georges," New York, about 1900, "Cast-iron stoves, round and square, were in use in New York about 1752."

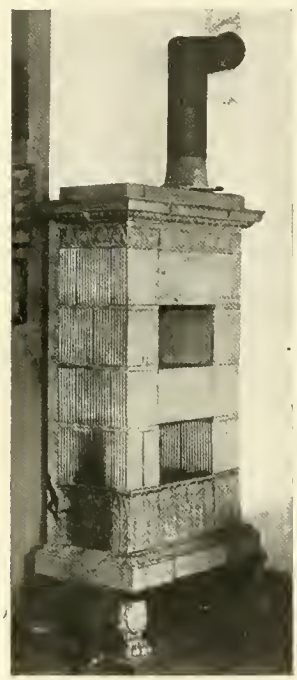
227.

Tile and Iron Draft Stove.

Size, minus legs, H. 54, W. upper 33, legs 13½. Radiating holes, lower, H. 12, W. 14. Upper, H. 9, W. 14. Moravian Historical Society, Nazareth, Pa. Removed from an unknown original site and reconstructed in the Museum, October 6, 1871.

The stove is made in the style of similar stoves in Germany, Holland and Scandinavia, in use in the middle 18th century. It consists of a fire chamber of iron, with an upper heat retaining story, perforated by two square heat radiating holes, and is made of cornice-shaped and panelled stove tiles, dished or hollowed inside, broad rimmed, and probably punctured for wires to facilitate setting them up like so many bricks with lime and sand mortar. These tiles are, in simplest form, in one plane with two stamped panels 7 inches high and 8½ inches wide, or longer with three panels, when they return in a single piece around the corners, and are all glazed in one color with brown manganese glaze on a red clay body. The fuel door is at the lower right corner above the iron hearth extension and the smoke pipe appears above.

The whole lower iron box is a fire chamber, from which through a hole at its left smoke and heat circulate around the radiating holes and through the entire interior of the upper heat-retaining structure of tile. Through the kind information of Mr. T. M. Rights, of Nazareth, and the Rev. Albert Oerter of Nazareth, Pa., who quotes "an excursion into Bethlehem and Nazareth in the year 1799 by the Rev. John C. Ogden," we learn that in 1799 stoves thus constructed, either entirely made of tiles or constructed thus of iron and tiles, were in common use, but "since the improvement in stoves" were going out of fashion in public buildings and private houses in Bethlehem and Nazareth, that the first stove of the kind was made at a pottery "in the Swamp" (probably near Hanover, Montgomery County), by Ludwig Huebner, and set up by him in 1742, that later Huebner came to Bethlehem and built a kiln and potter's wheel near the "Abbott property," and the first log tavern, that this or another pottery was enlarged in 1756 and contained lodgings for workmen in its second story, and that in



228.

1762 the pottery, then managed by Huebner, was in a stone building 32 by 35 feet in size. We learn further, that Huebner, after the Continental soldiers had used the brethren's house at Bethlehem as a hospital, had presented a war claim against the new government in 1789 for 12 pounds for the loss or damage of eight new tile stoves.

It also appears that the brothers Martin and Leonard Dober, Swabians, of Austrian extraction, had helped to introduce pottery making into the Moravian settlement at Bethlehem, and also, according to information from Miss Adelaide Fries, that a large pottery first conducted by the Moravian congregation, after 1829 by lessees, and after 1833 by the German Moravian potter, Henry Schaffner, of Neuwied, Germany, had continued to exist as late as 1850 at the Southern Moravian community at Winston-Salem, North Carolina, where many domestic utensils and tile stoves were made. Of these, according to Miss Fries, two of yellow tiles with tile fire chambers, set on iron bottom plates with iron legs, are now, 1914, preserved at the Wachovia Historical Society at Winston-Salem. According to Mr. J. A. Linebach, Librarian of the Society, one of these came from the building now known as the Bishop house, see Figure 228, and the other from that called the Bagge house. Another tile stove exists at Bethabara, North Carolina, and a fourth in a private house at Winston-Salem.

229.

Front Plate of Franklin's Fireplace.

Size, H. 16 x W. 24. Bucks County Historical Society.

The original pattern of 1742, as described and illustrated in Franklin's pamphlet (An account of the new invented Pennsylvanian Fireplace, etc., etc., Philadelphia. Printed and sold by B. Franklin, 1744), possibly designed by Franklin himself.

A sun as a human face with sixteen rays, surrounded by branching leafage, twisted at various angles, with the motto "ALTER IDEM," "Another like me," upon a scroll, as to which Franklin publishes a poem on the last page, 33, of his pamphlet, as follows:

On the DEVICE of the NEW FIREPLACE A SUN *with this motto* ALTER IDEM, *i. e.*

A second Self or Another the Same.
By a Friend.

ANOTHER SUN! tis true; but not THE SAME
Alike I own, in Warmth and genial Flame
But, more obliging than his elder Brother,
This will not scorch in Summer like the *other*
Nor when sharp *Boreas chills our shivering Limbs*
Will *this Sun* leave us for more Southern Climes
Or in long Winter Nights, forsake us here,
To cheer new Friends in tother Hemisphere;
But faithful still to us this *new Sun's* fire,
Warms when we please, and just as we desire.

230.

Franklin's Fireplace.

Early modification of original pattern. Size, W. 24 x H. 32. Hearth, back to front, 34 inches. Bucks County Historical Society. (Showing Figure 229 in position.)

Found in loose pieces at the house of Mr. Seth T. Walton, one mile east of Willow Grove, Montgomery County, Pa. Formerly owned by Robert Roberts. The two sides and back plate were found by the writer on the top of the parlor chimney in 1911.

In general shape and appearance, the stove containing several of the original plates, as described by Franklin in the pamphlet previously named (under Figure 229), closely resembles the original Franklin stove, but when compared with the complete set of illustrations there shown, several differences appear.

Here the very important hot air box is lost and the surviving bottom plate, unlike the original, lacks the holes for the blower, the hot-air box and down-draft smoke egress. The back plate is perforated for a smoke egress, while Franklin's is not, and the top plate, unlike Franklin's, has been perforated with a circular hole equipped for a sliding lid, probably intended for warming water.

On the other hand, the right and left plates with their air holes, and grooves for the air box, and the front plate with its decorations, exactly resemble Franklin's models and stand in their original position.

According to Franklin's complete set of illustrations, in the above-named and now rare pamphlet, the entire apparatus described was a down-draft portable fireplace, intended to be built against and into the fire opening of a common open fireplace of masonry, so as to emit its smoke, not at the top, but through a hole in the rear of the bottom or underfire plate, and equipped, as a particular novelty, with a hot-air box inserted immediately back of the fire, over and down back of which the smoke and flame passed, to escape at the down-draft outlet. The air box being so constructed as to take in cold air from outside the house, through a hole in the hearth plate, and puff it out when heated into the room through two holes in the side plates of the apparatus, seen in the illustration, Figure 231.

The whole fireplace was constructed of eight plates, and while the down-draught hole in the hearth plate, and the sun and motto design on the front plate, are distinguishing features of the original stove, the hot-air box is its most important characteristic.

But this Franklin did not invent, since, as he admits in his pamphlet, cast iron hot-air boxes emitting heated air had been introduced into open fireplaces by Sieur Nicholas Gauger in France in 1709, and were described in a book published by him, called "La Mechanique de Feu," and described in English in 1715 by Dr. Desaguliers (see Fires Improved, etc., etc., from the French of Mons. Gauger made English, and improved by J. T. Desaguliers, London, J. Senex and E. Curll, 1715). Nevertheless, Franklin's apparatus, if not an invention, was an improvement, since Gauger's Fireplace, of which Gauger describes seven varied arrangements, was up-draft, not portable, complicated, and set with its air boxes, save in one instance, within the jamb mantle and back, while Franklin's apparatus was portable, down-draft, and with its air box constructed away from the wall, so as to present three sides to the heat, instead of one or two.

Franklin, who presented the fireplace to Robert Grace, manager and part owner of Warwick Furnace in 1742, never patented it; and it appears that a great number of portable fireplaces named after Franklin were thereafter cast at various furnaces in Pennsylvania, New England and the other colonies, but most of them only followed the original model in outward shape.

The fact that no original Franklin stove has been recently heard of, while many of the modern forms minus the air box still survive, shows that the original apparatus was probably not a success. No doubt it smoked in many cases, either because in certain chimneys the down-draft principle would not work, or because the smoke canal under the hearth was easily clogged with soot and difficult to clean, without removing the air box. The rarity of remaining parts of these air boxes also shows that the latter was soon discarded altogether, the down-draft flue abandoned, and the smoke egress or pipe hole put, in modern fashion, in the top of the stove.

The Potts MSS. show the first sale of Franklin's apparatus, not in the ledgers of Warwick Furnace, but in those of Coventry Forge and of Mount Pleasant Furnace, as follows: "Sept. 23rd, 1742, Coventry, book B, page 87, charged to Mr. George Rock, of Northeast, Maryland, 7 small new-fashioned fire-places, weight, 21 cwt., no qr. and 6 lbs. 23£, 3 shillings and 2d. Sent to Israel Pemberton per Will Wynn. Mr. Grace had them in town."

The second entry that refers to a Franklin stove, appears in the ledger of Mount Pleasant Furnace (managed by John Potts and Thomas Rutter), for November 9, 1742, page 195, and reads: "Joseph Scull, to cash to your son 4 shillings, and a fire-place for Pascall's, 3£, 14 shillings," from which it appears that Grace, who was then in charge of Warwick, had for some reason ordered the first stoves cast at Redding and Mount Pleasant, rather than at Warwick, where the casting of Franklin fireplaces, frequently credited to Grace, Franklin himself and others, often by the ton, according to the first ledger entries, began three years later, viz., on June 12, 1745.

There in the Warwick day book for 1747, September 29, parts of the fireplace noted, as follows: Eleven backs, seven bottoms, six tops, seven right sides, one air box and four matching plates for air box are credited to Robert Grace to be sent to Mr. Franklin in Philadelphia; and in that year one ton and in 1751, between July and October, seven tons of fireplaces are sold.

J. Durno, of Jermyn street, Picadilly, London (see A description of a new invented iron stove, J. Desaguliers, London, 1753), produced an altered version of Franklin's fireplace, adapted for coal instead of wood, and with a brick air box.

And James Sharp, of 15 Leadenhall street (see an account of the Pennsylvanian stove grates, with additions and improvements, etc., by James Sharp, 15 Leadenhall street, London, sold by Benjamin White, 63 Fleet street, about 1781), varied it again with long stovepipes, made it more easily cleanable and rendered it independent of fireplaces. He describes it as very efficiently constructed in the damp St. John's Church, Southwark, and Draper's Hall, London.

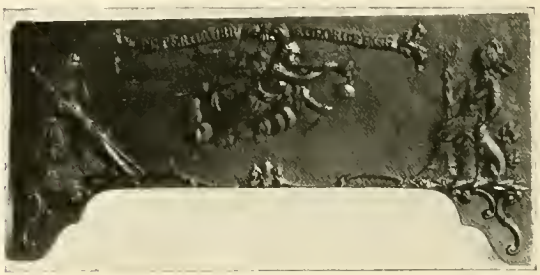
A great many of the so-called "Franklin Stoves," first cast in open sand, and later in flasks, have continued to be manufactured down to the present time, but because none of the older specimens preserved in ancient houses, or heard of by the writer, are made of eight plates, as they should be, but consist only of five, and because, like the stove illustrated by Lossing as an original (see Field Book of the Revolution, Vol. I, page 328), or that described as found among the heirlooms of Warwick Furnace by Mrs. James (Potts Memorial), they lack the air box, down-draught hole, sun plate and motto, or are inscribed with names or advertisements not contemplated or described by Franklin; they are not originals.

231.

In the appendix called Sequence of Franklin Stoves (Forges and Furnaces, Colonial Dames, page 188), twelve Franklin stoves and one plate are illustrated, together with an unexplained reproduction of Franklin's original stove cut of 1744. But the interesting construction of Franklin's apparatus is overlooked and no original stoves are illustrated. All the stoves shown appear to be up-draft and many show inclined backs. No "sequence" appears.

The Warwick stove shown may be pre-revolutionary, but whether it is down-draft or not does not appear in the blurred photograph. Furnace dates and the liberty motto prove that five of the stoves illustrated were cast during or after the Revolution. One front is dated 1772, while six other stoves illustrated, decorated in the style of the late 18th century, appear to have been cast between 1780 and 1800, or later, though these are dated by the ladies without quoting authorities, between 1750 and 1760.

Here we have the original front plate and, as remarked above, the right and left plates with their air holes and grooves for the air box, but the original perforated bottom plate has been replaced with a solid new one; the top plate has been arranged for a kettle rest, and the back plate perforated for the smoke egress, as if the owner of an original Franklin Fireplace, having abandoned the down draft and air box, had replaced several of the original plates with new ones, and continued to use such of the old ones as served his purpose.



232.

Front Plate of Franklin's Fireplace.

Size, H. 14¼ x W. 30½. Pennsylvania Museum, No. 13-450.

The plate, differing entirely in design from Franklin's original, Figure 229, must have been cast about forty years after the philosopher invented his fireplace.

It is undated, but its pattern, the flying angel blowing a trumpet, the seated Indian with his dog and bow, and the allegorical figure opposite, generally repeat, though with varying details, the Liberty pattern of the stove plate, Figure 175. Therefore it must have been cast during or after the Revolution, as no such plate would have been made before. Instead of the liberty motto, we have an advertisement on the scroll of the names of Peter Grubb and George Ege, which association of names shows that the plate may have been cast either at Cornwall Furnace, in Lebanon County, where Peter Grubb was master between 1765 and 1785, or at Mount Hope Furnace, founded by Peter Grubb, 3d, 1785, and where the latter may have had Ege as a partner, or at a furnace unnamed by Pearse, page 193, in Dauphin County, managed by Peter Grubb in 1797.

According to Swank, page 182, there were three Peter Grubbs, viz: Peter Grubb, 1st, who built Cornwall Furnace in 1742, and died in 1754, and who was the son of John Grubb, of Cornwall, England.

Peter Grubb, 2d, son of 1st, who was a Colonel in the Revolutionary War and a brother of Curtis Grubb. He resumed the management of Cornwall Furnace in 1765, after its lease by his father, and was living in 1785.

Peter Grubb, 3d, son of 2d. He was called Peter Grubb, Jr., in the ironmaster's petition of 1785, Swank, page 496. Built Mount Hope Furnace in 1786 and had a furnace, unnamed, in Dauphin County in 1797. It is probably the latter whose name appears on this plate.

According to Swank, page 176, George Ege was a native of Holland, and for fifty years, probably after the Revolution, a prominent ironmaster in Pennsylvania. He was a large land owner in Berks County, where he built Reading (not Redding) Furnace, on Spring Creek, Heidelberg Township, in 1794. This he held until his failure in 1824. He leased Berkshire Furnace in 1774, and held it as lessee or part manager between 1780 and 1783, then bought it about 1790 (Montgomery, 62 and 73); He bought Charming Forge, in Berks County, in 1774.

He had a brother, Michael Ege, a prominent iron-master in Cumberland County, early in the 19th century, who owned Pine Grove, Carlisle, Mt. Holly and Cumberland Furnaces, and died in 1815. He had a son, George Ege, 2d, and Peter Ege, who later owned Pine Grove Furnace.

A similar pattern, but with the liberty motto, was described to the writer as part of a Franklin stove still existing in 1898 in an old house at Front street and Germantown avenue, Philadelphia, by Mrs. Martha Ann Hance, of 2032 Camac street, Philadelphia, in 1908.

233.

Lord Botetout's Stove.

Cast-iron draft stove of Continental European pattern of the middle 18th century. Size about 7 feet high by 3 feet wide. At the State Capitol, Richmond, Va.

According to articles in the Virginia Historical Register of 1853, Vol. I, pages 28 and 87, and Vol. VI, page 43, this stove was given to the Virginia House of Burgesses at Williamsburg during the administration of Lord Botetout, received by them from his executor, the Duke of Beaufort, in 1770, and removed to Richmond in 1779. It was made by or for a maker or stove merchant, Buzaglo, of London, from whom a signed letter, dated August 15, 1770, referring to enclosed printed directions for setting up the stove, is quoted. The writer, Buzaglo, praises the workmanship of "the newly invented warming machine" as "doing honor to Great Britain, and excelling in grandeur anything ever seen of the kind, a masterpiece not to be equalled in all Europe, and which has met with general applause, etc."

The writers of the articles in the Virginia Register, one of whom signs himself GAM, discuss the Latin motto, "Endat Virginia quartam," under the Royal Arms of Great Britain, cast on the reverse, not here shown.

The heavy stove with its massive decorated legs and its fire chamber, surmounted by two heat radiating tunnelled boxes, is decorated in the English Chippendale style of the middle 18th century. The upper arch is surmounted with the legend Buzaglo fecit 1770, and the fire box shows a figure of Justice holding scales and leaning, with sword in left hand, upon a scroll marked "Magna Charta," spread upon a stool above the motto "Pro Aris Et Focis."

Mr. Miller Christy, of Chelmsford, England, supposes (in a letter to the author, January 7, 1914) that the stove may have been cast for Buzaglo at the old Carron Foundry, still existing, at Carron, Stirlingshire, Scotland. Established in 1770.

NOTES.

NOTE 1.

COLONIAL FURNACES IN THE EASTERN UNITED STATES AND CANADA.

The following is a very incomplete list of the American Furnaces or Foundries where iron stoves were or could have been cast, in existence in the Eastern United States and Canada, during the colonial period, or during the time, until about 1770, when decorated stoves were made in Pennsylvania. It is compiled from the incomplete, disjointed accounts, frequently unindexed and too often unsubstantiated by original authorities, in

A. Iron in All Ages, James M. Swank, Philadelphia, 261 South Fourth St., 1892. Chapters 9 to 16, 21 to 25 and 40. Cited as (Sw.).

B. History of American Manufactures. 2 Vols. J. L. Bishop, Philadelphia. Young & Co., London. Sampson Low, 1864. Cited as (Bish.).

C. Iron Manufacture in America. John B. Pearse, Philadelphia. Allen & Scott, 1876. (Pearse.)

D. Early Furnaces and Forges of Berks County, Pa. By Morton L. Montgomery, Penna. Magazine of History, 8.56. Cited as (Mont.).

E. Iron and Coal in Penna. J. M. Swank, 1878. Cited as (Sw. I. and C.).

F. History of Chester County, Penna. J. S. Futhey and Gilbert Cope, Philadelphia. Everts, 1881. (F. and C.).

G. History of Lancaster County. F. Ellis and S. Evans, Philadelphia. Evarts & Peck, 1883. Cited as (E. and E.).

H. Memorial of Potts Family. Mrs. Potts-James. Cambridge, Mass., 1875. Cited as (James).

I. Early Furnaces in Lancaster County. Winslow Fegley. Transactions Berks County Historical Society, Vol. 2, page 25.

J. Owen B. F. Correspondence with the writer.

A is generally the authority where B. C. D. E. F. G. H. I. J. are not quoted.

An account of the old Pennsylvanian Furnaces illustrated from photographs of several of the ruined Stacks, Masters' Houses, Stove Plates, Franklin's Stoves, etc. (Forges and Furnaces in the Province of Pennsylvania Prepared by the Committee on Historical Research of the Colonial Dames of America, Philadelphia, 1914), appeared after the writing of the above pages. Its new information where used has been acknowledged by the writer.

NOTE 2.

FURNACES IN MASSACHUSETTS.

LYNN FURNACE, 1645-1688. Masters or owners, Copley, Bond, Pury, Becx, Beauchamp, Foley, Greenhill, Weld, Pocoke, Beck, Hicocke, J. Winthrop, Jr. At Saugus Centre, head of tide water, site of old Ferry, north or left bank of Saugus River. Place called Hammersmith, near Lynn, Mass.

Owners also Thomas Dexter, Robert Bridges, of Lynn, (Alonzo Lewis History of Lynn. Swank, 108), Joseph Jenks, machinist and inventor; Henry and James Leonard, forge men. Blast furnace called foundry and refinery forge, not Bloomary. Till about 1850 furnaces generally called Foundries (Swank). "Stoves," pots, mortars, skillets cast at Lynn and Braintree Furnaces, 1647 (letter of Robert Child to John Winthrop, Jr., Boston, March 15, 1647. Sw., 113. Pearse 22).

BRAINTREE FURNACE, 1646 to 1653. Norfolk County, ten miles south of Boston, Mass. Masters, The Lynn Co. Employees, William Osborne, Henry and James Leonard. (Sw., 113.)

DESPARDS FURNACE, 1702. Mattakeeset Pond, Town of Pembroke. Plymouth Co., Mass. Lambert Despard and Barker family. Mark Despard. Abandoned on exhaustion of wood. (Sw., 120.)

KINGS FURNACE, 1724-5 to about 1840. On Little North Brook at Taunton, now Raynham, Bristol County, Mass. John King and Stock Company, 1724. Bog ore, pots and kettles. Pig iron from New Jersey in 1816.

SIX FURNACES, 1731. Properly Foundries recasting pig iron for hollow ware. (Swank, 121, quoting Douglass' British Settlement.)

PLYMPTON (or CARVER) FURNACE, 1730. First cast iron teakettles, 1760-1765.

POPES POINT FURNACE, 1733. South Carver, Mass. (Inf. Mr. Henry S. Griffith, 1913.)

CHARLOTTE FURNACE, 1760. South Carver, Mass. (Inf. Mr. Henry S. Griffith.) Lasted through War of 1812.

LENOX FURNACE, 1765 to 1881. Berkshire Co., Mass.

FURNACE VILLAGE FURNACE. Before 1773. Furnace Village, Worcester County, Mass.

FEDERAL FURNACE, 1794. Plymouth County, Mass. Made stoves and firebacks in 1804. Inf. Dr. James Thatcher. (Sw., 123.)

NOTE 3.

FURNACES IN RHODE ISLAND.

HOPE FURNACE, 1735. North Branch of Pawtuxent River, Rhode Island. Nicholas Brown, Moses Brown, Samuel Waldo, Israel Wilkinson. (Sw., 127.)

THREE FURNACES in Cumberland Township, R. I., in 1735. Abandoned before Revolution. Many pots and stoves cast at close of 18th century. (Sw., 128.)

NOTE 4.

FURNACES IN CONNECTICUT.

NEW HAVEN FURNACE, 1658. Captain Thomas Clarke, J. Winthrop, 1658 to 1659. Blast furnace and refinery forge, pig iron and pots in 1663. (Sw., 118.)

LIME ROCK FURNACE. About 1740 to 1750. Active 1890. Litchfield County, N. W. Conn. Thomas Lamb. (Sw., 128.)

NOTE 5.

FURNACES IN NEW HAMPSHIRE AND VERMONT.

According to Swank there were no furnaces or foundries in these States during the period in question (Chapter 11). SHAPLEIGH FURNACE, York County, Maine. Furnace at FURNACE VILLAGE, Exeter, New Hampshire, 1795. (Sw., 132.) THREE FURNACES in Rutland County, Vermont, 1794. No furnaces before 1775. (Sw., 133.)

NOTE 6.

FURNACES IN NEW YORK.

ANCRAM FURNACE, 1750 to 1837. Ancram Creek, Columbia County, fourteen miles east of Hudson River, near Connecticut "Ore Hill," Salisbury Township, Conn. Philip Livingston, 1750. (Pearse, 46, and Sw., 136.)

COURTLAND MANOR FURNACES. Two of them, begun and abandoned before 1756.

STERLING IRON WORKS or WARD AND COULTON'S FURNACE, 1751. At Sterling Pond, Orange County, N. Y. Lord Sterling, 1750; Peter Townsend, 1776;

FOREST OF DEAN FURNACE, 1756 to 1777. On Ramapo Creek, Orange County, five miles west of Fort Montgomery, abandoned 1777. Stoves cast for American Government, 1776. (Sw., 138.)

QUEENSBOROUGH FURNACE. Probably after 1770. Near Fort Montgomery, six miles below West Point. Only pig iron; no castings. Abandoned 1800. (Sw., 139.)

CRAIGSVILLE FURNACE. During Revolution. (Pearse, 48.)

AMENIA FURNACE AND FOUNRDY. During Revolution. In Dutchess County. (Pearse, 49.)

HAVERSTRAW FURNACE. During Revolution. Rockland County. (Sw., 142.)

PHILIPSBURG FURNACE. Westchester County. (Sw., 141.)

NOTE 7.

FURNACES IN NEW JERSEY.

SHREWSBURY or TINTON FALLS FURNACE, 1682. At Tinton Falls, South Monmouth County, N. J. Colonel Lewis Morris, 1682. (Sw., Chapter 13.)

BERGEN FURNACE. Doubtful date. Monmouth County. (Sw., 147.)

MOUNT HOLLY or HANOVER FURNACE, 1730 to 1776. Isaac Pierson, Mahlon Stacey, John Burr. Destroyed 1776.

RINGWOOD or OGDENS FURNACE, 1740 to 1776. Near Greenwood Lake, formerly Bergen now Passaic County. Ogden family, 1740; Peter Hasenclever, 1764-1768.

J. Jacob Faesch, 1770; Robert Erskine, 1772. Rebuilt by Peter Hasenclever 1768. Three furnaces and forge. Destroyed 1776.

OXFORD FURNACE, 1742 to 1882. Warren County, N. J. Johathan Robeson, 1742. Durham boats carried ore down the Delaware from Foul Rift. (Sw., 154.) Water blast or Trompe used at first.

UNION FURNACE, 1750 to 1778. Hunterdon County. William Allen, Joseph Turner, 1750. Two furnaces, two forges. Abandoned 1778.

ANDOVER FURNACE, 1760, about. Sussex County. Furnace and forge. Durham boats.

HIBERNIA FURNACE or ADVENTURE FURNACE, 1765. Pequannock Township, Morris County, N. J. Lord Sterling, Benjamin Cooper, Samuel Ford, Anderson and Cooper, 1765; Lord Sterling alone, 1773; Joseph Hopp, manager, 1776.

BLOOMINGDALE FURNACE, 1765. Passaic County. The Ogdens, 1765.

BATSTO FURNACE, 1766 to 1846. Batsto river branch of the Mullica river, Burlington County. Charles Read, 1766; William Richards employed as founder, 1768; William Richards, 1784. Abandoned 1846. (Pearse, 54.)

ATSION FURNACE, Atsion river branch of the Mullica river, Burlington County, 1766. Charles Read, 1766.

TAUNTON FURNACE, 1766 to 1773. Evesham Township, Burlington County. Charles Read, 1766. Abandoned 1773.

CHARLOTTENBURG FURNACE, 1767 to 1776. West Branch of Pequannock Creek. Peter Hasenclever, 1767; John Jacob Faesch, 1770; Robert Erskine, 1772. Burned, 1776.

LONG POND FURNACE, 1768. Near Greenwood Lake, Passaic County. Peter Hasenclever, 1768. (Sw., 150.)

POMPTON FURNACE, about 1768. Passaic County. Peter Hasenclever, 1768. (Sw., 150.)

MOUNT HOPE FURNACE, 1772 to 1825. At Mount Hope, four miles N. E. of Rockaway. John Jacob Faesh, 1772. Abandoned, 1825.

FRANKLIN FURNACE, 1770. Franklin, Morris County.

During or after the Revolution, about 1780, the following furnaces in S. and S. W. New Jersey. CUMBERLAND, DOVER, ETNA, FEDERAL, GLOUCESTER, MARTHA, HANOVER, MONMOUTH, MELVILLE, SPEEDWELL, WASHINGTON, WEYMOUTH, EIGHT FURNACES in 1784 and after.

Note—Decorated Stove Plates of The Pennsylvania Type seen about 1877, at Fillmore, Monmouth County, in a "scrap heap," by Mr. Patrick Trainor. Information Patrick Trainor, Doylestown, 1913.

NOTE 8.

FURNACES IN PENNSYLVANIA.

COLEBROOKDALE FURNACE, 1720 to about 1793. Ironstone Creek, branch of Manatawny Creek, eight miles west of Pottstown, Colebrookdale Township, Berks County, Pa. Thomas Rutter founder; James Lewis, Anthony Morris, 1720; share owners, Anthony Morris, Alexander Wood, Samuel Preston, William Atwood, John Leacock, Nathaniel French, George Mifflin, Thomas Potts, George Boone (ancestor of the pioneer), 1731; Thomas Potts associated, 1728; share owner, 1731, Thomas Rutter, 1733, 1736, 1763 (probably fourth of the name, died, 1763), (James, 38, 60); Thomas Potts, 1747, grandson of Thomas Potts, died 1762. First furnace in Pennsylvania named after Cole- (or Coal) brookdale Furnace, Shropshire, England. Township named after furnace in 1736. Rebuilt, 1733. Scull's map, 1759. Supplied Poole Forge, (first forge in Pennsylvania, founded, 1716). Supplied Pine forge, 1740; McCalls or Glasgow forge, 1725; Spring forge, 1729. (Sw., 58; Mont., 63.) See Figures 111, 155 and 168. Abandoned about 1765. Listed, but probably inactive, 1793.

NOTE 9—REDDING FURNACE, or more properly CHRISTINE-REDDING. Successor to CHRISTINE FURNACE. Date of origin doubtful, soon after 1720, certainly before 1728. (Potts Manuscript Coventry Forge Ledgers). Date of demolition of Christine unknown. Redding built 1737 to 1738; abandoned after 1783. (F. & C.) French Creek, East Nantmeal, now Warwick Township, Chester County, Pa. Founders, William Branson and Samuel Nutt, business partners in 1728. (F. & C., 324.) The former died, 1760. (Sw. I. & C., 121.) Owners, William Branson, 1737, 1740 to 1742, 1750 to 1756, 1760, with Linford Lardner and Samuel Flower, 1741; with Samuel Nutt's widow as Nutt & Co., and with John Potts as manager, 1737. Nutt having died in that year. 1737 to 1740 Nutt's widow and Branson quarrel in a lawsuit and separate; 1740 to 1741 (F. & C., 344) Samuel Flower, manager after 1760. (S. F. on stove plates in 1756-1764.) Part owner, Mr. Van Leer (Bishop, 553). James Old, 1772 and 1773 (Sw., 180); Rutter & Potts, 1778 to 1783. Abandoned about 1783 (F. & C.). Started after disuse, 1792. (Pearse, 152.)

Christine Furnace in existence, 1728 to 1729. (Potts Manuscript.) Redding built 1737 (Road Petition, 1736, F. & C.) agreement of management (F. & C. and James). Two furnaces about one mile apart. Inventory of S. Nutt's will, 1737 (James, 49), Sculls map, 1756.

Christine and Redding Furnaces were associated with Coventry Forge, situated ten miles east at mouth of French Creek (Sw. I. & C., 121), also with Windsor Forge on Conestoga Creek, and with Vincent Steel Works. Exact site of first and second forges lost (James, 49). Samuel Flower, Branson's son-in-law, lessee of Windsor Forge in 1743 for thirty years.

NCTE 10—CHRISTINE FURNACE. Predecessor of Redding Furnace (see latter).

NOTE 11—KEITHS FURNACE, 1725 to 1728. On Christiana River or Creek, Newcastle County, Delaware, then Pennsylvania. Sir William Keith, Governor of Pennsylvania. (Sw., 234.)

NOTE 12—KURTZ'S FURNACE, 1726, doubtful. Lancaster County. No data given. See Pierce, 218, Bishop, page 552, and Historical Collections of Pennsylvania Sherman Day, Philadelphia, 1843, page 388. Day, page 393, refers to probably the same Kurtz as an Amish Mennonite, who for conscientious reasons, refused a grant of one thousand acres from the Proprietaries.

NOTE 13—ABINGTON FURNACE, 1727 until about 1768. South bank of Christiana Creek, Delaware, originally Pennsylvania. Samuel James, Reece Jones, Samuel Nutt, Evan Owen, William Branson, Thomas Rutter, John Rutter, Caspar Wistar.

NOTE 14—DURHAM FURNACE, 1727 to about 1897. Durham Creek, one and a half miles above its mouth, Durham Township, Bucks County, Pa. Founders a company of fourteen persons with Anthony Morris, Jeremiah Langhorne, William Allen, Joseph Turner, James Logan (Penn's secretary), and others, General Daniel Morgan, William Bird before 1744 (Sreepy papers. Inf. B. F. Fackenthal, Jr.); George Taylor, signer of Declaration of Independence, 1774, who cast a stove plate exhibited in 1892 at Easton Post Office; Richard Backhouse later. One of the four furnaces in blast in 1728, according to James Logan (Sw., 170). Many stoves cast about 1741. (Sw., 169.) Early records and ledgers lost. (Inf. Mr. B. F. Fackenthal, Jr.) Demolished, 1819; rebuilt, 1848 to 1851, and again, 1874. Abandoned, 1897. Supplied several forges. Ore carried down Delaware in Durham boats.

NOTE 15—MOUNT PLEASANT FURNACE, 1738. Five miles west of Colebrookdale Furnace, near present Barto, West Branch of Perkiomen Creek, Colebrookdale Township, Berks County, Pa. Thomas Potts, Jr., 1738. John Potts, 1742 (Potts M. S. Furnace Ledgers). First blast on authority of Potts Family Papers, October 12, 1738. (Pearse, 153.) Associated with Mount Pleasant Forge, built about 1743. David Potts manager until his death in 1752. (Forges and Furnaces of Penna., Colonial Dames, Phila., 1914, p. 75.)

NOTE 16—WARWICK FURNACE, 1738 to 1867. South Branch of French Creek, Chester County, Pa. Anna Nutt (Anna Nutt & Co.) founder, 1738. (F. & C., 211.) Franklin fireplaces cast there. (F. & C., 211.) These first mentioned in Potts MSS., Coventry Forge Ledger, September 23, 1742, hence probably first cast at Redding. "Seven small new fashioned fire places on account Mr. Grace to Mr. George Rock, at Northeast, Maryland." Warwick sold Dutch oven and five tons of stoves in 1774, two large Moravian stoves in 1779, and five tons of stoves in 1785. Franklin's fireplaces retailed at five pounds ten each in 1785, ten plate stoves at ten pounds each, large six plate stoves at six pounds each, and small six plate stoves at five pounds ten each in 1785, on authority of Potts Family Papers (Potts-James, 53). Managers 1740, Robert Grace, born, 1709; married Mrs. Samuel Nutt, Jr., about 1741, died 1766. Samuel Nutt, 3d, in 1756 (Acrelius writing in 1756, History of New Sweden, F. & C., 211 and 328); John Potts before and until 1768 (James, 110); Samuel and John Potts, Jr., before and after 1768 (James, 110); Thomas Rutter and Samuel Potts during Revolution after 1776. Warwick Furnace supplied Mount Joy or Valley Forge. Built, 1751.

NOTE 17—CORNWALL FURNACE, 1742, still existing 1914. On Furnace Creek, near Lebanon, Lebanon County, Pa. Founder Peter Grubb, 1742. Cornwall Company of twelve persons, lessees for twenty years, 1745; Jacob Giles sub-lessee later (Bishop, 553); Peter Grubb died, 1754; Curtis and Peter Grubb 2d, 1754; Garrett & Co., about 1756 (Acrelius quoted by Pearse, 218); Peter Grubb 2d, again about 1765 till 1783, then Peter Grubb 3d, then with Robert Coleman; Robert Coleman five-sixth owner, 1785-1798. (Sw., 182.) (Forges and Furnaces, Colonial Dames, 87.)

NOTE 18—POPADICKON or POTTS GROVE FURNACE. Founded before 1745. Existing, 1769. At or near Pottstown, Berks County, Pa. (Potts Manuscript.) Overlooked by Swank and Montgomery. Managed by John Potts. Stoves sold in the 1740's and furnace called Potts Grove after 1750.

NOTE 19—ELIZABETH FURNACE, 1750 to 1856. Middlecreek Branch of Conestoga Creek, near Brickersville, Lancaster County, Pa. Hans Jacob Huber, founder, 1750; H. W. Stiegel, with John Barr and Alexander and Charles Steadman as partners (Stiegel & Company), 1757 to 1778; Stiegel died, 1783; Daniel Benezet, 1775; Robert Coleman lessee, 1776; owner, 1784-94. Rebuilt, 1757. Abandoned, 1856. Furnace Ledger at Historical Society of Pennsylvania. (Sw., 179, and Forges and Furnaces, Colonial Dames, 119.)

NOTE 20—MARTIC FURNACE, 1751 (Information Mr. B. F. Owen). A cinder bank in 1890. (Sw., 183.) Existing but not active, 1793, near Colemansville, Lancaster County, Pa. Named after Martock village, Somerset, England. Thomas Smith, William Smith, 1751-1769; James Wallace and James Fulton, before 1769; William Benet, Samuel Webb, Ferguson McIlvaine, 1760 and later. Firm bankrupt, 1766. (Inf. Mr. B. F. Owen, Reading, Pa.) Inventory of sheriff's sale, 1769, mentions stove moulds (Sw., 188). Associated with Martic Forge after 1755. This was built by Thomas and William Smith, on Pequea Creek, six miles west. (Sw., 188.) James Old had Martic Forge in 1755. (Pearse, 220.)

NOTE 21—HEREFORD FURNACE, 1753. West Branch of Perkiomen Creek, Hereford Township, Berks County. On old map cited by Winslow Fegeley in "Old Charcoal Furnaces in Eastern Berks County, Pa." William Maybury, 1757; Thomas Maybury, 1767-68. See Figures 105, 169 and 180.

NOTE 22—SHEARWELL FURNACE. Furnace Creek, branch of little Manatawny Creek, Oley Township, near Friedensburg, Berks County, Pa. Built close to and managed with Oley Fur-

nace. Founded between 1744 and 1756 by Benedict Swope and Dietrich, or Dieter, Welker (information of B. F. Owen, of Reading, Pa., and Figure 57). Confused with Oley Furnace. Owned probably by William Maybury, 1765; John Lesher, 1768. Date of demolition not known. In existence, 1783 (information B. F. Owen). See Figure 187.

NOTE 23—HOPEWELL FURNACE, 1759 or 1765 to 1890, dates doubtful. (Montgomery, 60.) Existing, 1884. Abandoned, 1892. Union Township, Berks County, Pa. William Bird, died, 1761; Mark Bird, after 1761 to 1785; Cadwallader Morris and James Old, 1788; Benjamin Morris, 1790 to 1791; James Old, 1793; Benjamin Morris again, 1800. (Mont., 60.) Many ten plate stoves made in early 19th century. Account of later furnace and photograph of ruins, 1914. (Colonial Forges and Furnaces in Pennsylvania, Colonial Dames, 154.)

NOTE 24—ROXBOROUGH or BERKSHIRE FURNACE. Renamed Reading Furnace and again renamed Robesonia. First name, 1755 to 1792. Heidelberg Township, two miles southwest of Wernersville, Berks County, Pa. William Bird, 1755, died 1761 (Forges and Furnaces in Pennsylvania, Colonial Dames, p. 152, 76); Mark Bird, 1762 to 1764; John and Bridget Patton, 1764; George Ege, lessee, 1764, owner, 1790 (Forges and Furnaces, 152). Abandoned, 1792. Soon after rebuilt near old site and renamed Reading Furnace. Again renamed and now, 1913, Robesonia Furnace. Ledger and Journals of Furnaces after 1767 at Pa. Hist. Society. (Forges and Furnaces in Pennsylvania, Colonial Dames, p. 152.) See Figure 44.

NOTE 25—CARLISLE FURNACE. Boiling Springs, Cumberland County. John S. Rigby, 1762 (Forges and Furnaces, 172), later John Armstrong and Robert Thornburg, part owners. Finally Samuel Morris, John Morris, Francis Sanderson and Robert Thornburg, bought from Rigby in 1764. Later Michael Ege, Amos Stilwell, Robert Thornburg. In 1792 Michael Ege, sole owner. (Forges and Furnaces, page 172). Professor Himes says that six owners, five of whom were from Philadelphia, with Robert Thornburg and Francis Stevenson, of Carlisle, bought the furnace in 1764. (Decorated Stove Plate of 1764 West of the Susquehanna, Journal of Franklin Institute, December, 1903.)

NOTE 26—MARY ANN FURNACE, 1761-3 to 1800. Furnace Creek, West Manheim Township, Southwest York County. George Ross, George Stevenson, William Thompson, Mark Bird, between 1761 and 1763; Stevenson goes to Carlisle, 1765; George Ross and George Ege, 1774; John Steinmetz and John Brinton, of Philadelphia, 1790; later David Meyer. Cannon balls cast for American army during Revolution. Furnace abandoned about 1800. Cinder heap and frequently plowed up cannon balls mark the site on farm of Mr. Dusman, 1884. Remains of race and charcoal pits, 1914. (Gibson's History of York County, page 485.) Furnace Ledgers at Historical Society of Pennsylvania. (Furnaces and Forges in Penna., 160.)

NOTE 27—CODORUS or HELLAM FURNACE, 1765 to 1850. Codorus Creek, Hellam Township, York County, Pa. Confused with Hellam Forge. Owners, William Benet, 1765 to 1771, see Figure 133 (Sw., 212); Charles Hamilton, 1771; later James Smith; Thomas Niel, 1778; Samuel Iago, about 1793; Henry Grubb, 1810; various later owners. A furnace built 1837, abandoned 1850. (Gibson's History of York County, page 486.)

NOTE 28—PINE GROVE FURNACE, 1770 to 1870. Mountain Creek Branch of Yellow Breeches Creek, fourteen miles southeast of Carlisle, Cumberland County, Pa. Robert Thornburg and John Arthur, 1770; later Jacob Simon; in 1782 Michael Ege and Thomas and Joseph Thornburg, sons of Robert Thornburg; in 1803 Michael Ege sole owner; Ege family until 1838. Abandoned about 1870. (Forges and Furnaces, Colonial Dames, 181; Bishop, 559; Pearse, 192.) Site owned by Thomas Pope in 1762 and George Stevenson, 1764 to 1772, but Swank, page 185, says that the founders were Robert Thornburg and John Arthur in 1770. See Figure 178.

NOTE 29—HOLLY FURNACE. Mount Holly Springs, Cumberland County. Built, 1770, by a Mr. Stevenson. (Sw., 185.)

NOTE 30—OLEY FURNACE. Furnace Creek, branch of Little Manatawney Creek, Oley Township, near Friedensburg, Berks County, Pa. Successor to Shearwell Furnace and confused with the latter. Probably built in 1772, according to date stone from its stack now at Berks County Historical Society, by Christian Sauer and Jacob Winey. (Information of B. F. Owen, of Reading, Pa.) Daniel Udree, owner, 1778 to 1828. Furnace in operation, 1834 (Mont., 61), now, 1914, destroyed. Site nearly obliterated. See Figure 87.

NOTE 31—POST REVOLUTIONARY FURNACES IN PENNSYLVANIA.

MOUNT PLEASANT. NO. 2, 1783. Franklin County, Pa. William Benjamin and George Chambers, 1783.

DISTRICT or GERMAN FURNACE. Date of building doubtful. Before 1784 to 1797. Pine Creek, District Township, Berks County. Jacob Lesher, 1791; John Teysher, one-third owner, 1793; John Lesher, 1797. Abandoned, 1797. (Mont., 70.) See Figure 189.

MOUNT HOPE FURNACE, 1786. Going, 1876. Big Chickies Creek, four miles from Cornwall Furnace, Lancaster County, Pa. Peter Grubb, Jr., 1786. (Pearse, 219; Bishop, 554.)

MARY ANN NO. 2, about 1789 to 1869. Eight miles west of Trexlertown, Longswamp Township, Berks County. Jacob Lesher, 1789; Reuben Trexler, 1808. Many stoves cast. First anthracite coal stove made here by Reuben Trexler about 1820. Cast in open sand. So-called "Lehigh Coal Stove" made till 1857. (Mont., 72.)

DALE FURNACE, 1791 to 1821. West Branch of Perkiomen Creek, two miles from Mount Pleasant Furnace. Thomas Potts, Joseph Potts, John Smith, 1791; Robert E. Hobarth, one-third owner, 1793. (Mont., 72.) See Figure 178.

SALLY ANN FURNACE, 1791. Sacony Creek, Rockland Township, Berks County. Valentine Eckert, 1791. (Mont., 71.) Nicholas Hunter.

JOANNA FURNACE, 1792. Hay Creek, Robeson Township, Berks County. Thomas Bull, John Smith, Thomas May, 1796; Potts and Rutter, 1792 (Mont., 71.)

COLEBROOKDALE FURNACE No. 2 or COLEBROOK, 1792 to 1860. Eight miles southwest of Mount Hope Furnace, near Cornwall, Lancaster County, Pa. Robert Coleman, 1792.

READING FURNACE (not Redding), 1794 to 1850. Spring Creek, Heidelberg Township, Berks County, Pa. Successor to Roxborough or Berkshire Furnace, and predecessor to Robesonia Furnace. George Ege, 1794. (Mont., 73.)

GREENWOOD FURNACE, 1796. Schuylkill Gap, Sharp Mountain, Schuylkill County, Pa. Lewis Reese, Isaac Thomas, 1796; John Pott (not related to the Potts family of Pottstown), 1807. Demolished and rebuilt. (Mont., 73.)

Note—Montgomery says, page 70, that Union, District, Sally Ann, Joanna, Dale, Mary Ann, Reading (not Redding), and Greenwood Furnaces were built during or after the Revolution and before 1800.

WINDSOR FURNACE. On Conestoga Creek, near Churchtown, Caernarvon Township, Lancaster County, Pa. Furnace probably after Revolution, near old Windsor Forge. Built by Valentine Eckert, later owner George Reagan. Associated with Union Furnace in Albany Township. (Forges and Furnaces, page 178, quoting Berks County, by M. L. Montgomery.) Fine castings were made here under the management of Jones, Keim & Co., early in the 19th century. See a Crucifix and a casting representing the Last Supper, illustrated in Forges and Furnaces.

NOTE 32.

FURNACES IN DELAWARE.

KEITHS FURNACE, 1725 to 1728. On Christiana Creek, Newcastle County, Delaware, then Pennsylvania. Sir William Keith, Governor of Pennsylvania, 1725. (Sw., 234.) See Figure 208.

ABINGTON FURNACE, 1727 to about 1768. South bank of Christiana Creek. Samuel James, Reece Jones, Samuel Nutt, Even Owen, William Branson, Thomas Rutter, John Rutter, Caspar Wistar, 1727.

DEEP CREEK FURNACE, 1763 until Revolution. On Deep Creek, tributary of Nanticoke River, Sussex County. Joseph Vaughan, 1763.

PINE GROVE FURNACE, 1764 to about 1785. On Deep Creek, tributary of Nanticoke River, near Concord, Sussex County, Delaware.

NOTE 33.

FURNACES IN MARYLAND.

PRINCIPIO FURNACE, 1724 to 1780. Near mouth of Principio Creek, Cecil County, Maryland. English company. William Chetwynd, Joshua Gee, William Russell, Thomas Russell, Walter Chetwynd, John Wrightwick, 1724 to 1734. John England, manager, 1724 to 1734. William Baxter, manager, 1744.

One of the most important of American Colonial Furnaces. Owned Accokeek Furnace in Virginia, 1726.

GWYNNS FALLS FURNACE, 1723 to 1730.

MOUNT ROYAL FURNACE, 1723 to 1730.

KINGSBURY FURNACE, 1744. Herring Run, head of Back River, Baltimore County, Maryland.

LANCASHIRE FURNACE, 1751 until Revolution. West side of branch of Back River, a few miles N. E. of Baltimore, near Kingsbury Furnace. Principio Co. Lawrence Washington, 1751; Thomas Russell general manager for Principio Company, 1776.

EIGHT FURNACES in Maryland, 1749 to 1756. (Sw., 240.)

BUSH FURNACE, 1760. Harford County. Owner, John Lee Webster, 1767; Isaac Webster, 1762.

NORTHAMPTON FURNACE, 1760. Baltimore County. Ridgley Family. Cannon cast, 1780. (Sw., 253.)

UNICORN FURNACE, 1762. Queen Anne County. Robert Evans and Jonathan Morris, 1762. (Sw., 253.)

OLD HAMPTON FURNACE, 1760 to 1765. Near Emmetsburg, Frederick County. Soon abandoned.

LEGH FURNACE, 1760 to 1765. Near Westminster. Owner, Legh Master. (Sw., 253.)

ELK RIDGE FURNACE, before Revolution. On Patapsco River. Edward Dorsey.

YORK FURNACE. Site and date unknown.

STEMMERS RUN FURNACE. No date. Seven miles from Baltimore.

CURTIS CREEK FURNACE, until 1851. Patapsco County. William Goodwin and Edward Dorsey.

PATUXENT FURNACE, about 1734. Anne Arundel County. Thomas Rubard, Edward Snowden and John England.

GUNPOWDER RIVER FURNACE, before 1769. Head of Gunpowder River. Stephen Onion. (Sw., 253.)

GREEN SPRING FURNACE, 1770. Washington County. James Johnson and Mr. Jacques. Soon abandoned. (Sw., 254.)

MOUNT ETNA FURNACE, 1770. Antietam Creek, near Hagerstown. Samuel and Daniel Hughes. During Revolution.

CATOCTIN FURNACE, 1774. Frederick County. James Johnson & Co. Rebuilt, 1787 and 1831. In blast, 1880. (Bishop, 588.)

ONIONS FURNACE.

NOTE 34.

FURNACES IN VIRGINIA.

FREDERICKSVILLE FURNACE, about 1727. Spottsylvania County. Mr. Fitz Williams Governor Alexander Spottswood, Captain Pearse, Dr. Nicholas, Mr. Chiswell, 1727. (Sw., 260). (Bishop, 596.) Waterwheel, 26 feet in diameter. Bellows cost a hundred pounds each. Dam, race and flume seen about 1880. (Sw., 263.)

GERMANNA FURNACE, soon after 1727. Spottsylvania County. Colonel Spottswood. (Bishop, 596, and Swank, 261.)

ACCOKEEK FURNACE or ENGLAND'S IRON MINES FURNACE, 1750 to 1753. Twelve miles from Fredericksburg, Stafford County. In 1750 sent 410 tons of pig iron to England.

MASSAPONAX FURNACE, Air Furnace or Foundry, 1732. Five miles below Fredericksburg, on Rappahannock. Colonel Alexander Spottswood. Melted Sow Iron to cast chimney backs, pots, skillets, etc. (Sw., 262.)

THREE BLAST FURNACES in Virginia in 1732. (Col. William Byrd, quoted by Sw.)

RAPPAHANOCK FURNACE, about 1732. Ten miles above Fredericksburg. Built by Germans.

ZANES FURNACE, before Revolution. Frederick County. Associated with a forge.

ISABELLA FURNACE, 1760 to 1841. Page County, near Luray. (Pearse, 14.)

MOSSY CREEK FURNACE, 1760 to 1841. Augusta County, near Staunton. Henry Miller and Mark Bird. (Pearse, 15.)

WESTHAM FURNACE, about 1776 to 1781. Six miles above Richmond, on James River.

OLDS FURNACE, 1777. Twelve miles from Charlottesville. Old Wilkinson and Trent. (Sw., 269.)

POPLAR CAMP FURNACE, 1778. Wythe County. (Sw., 268.)

ZANES FURNACE, before 1781 to 1828. Cedar Creek, Frederick County. (Pearse, 14.)

ROSS FURNACE, before 1781. Beaver Creek, near Lynchburg. Called OLD DAVY ROSS FURNACE. Named OXFORD FURNACE in 1856. (Pearse, 16.)

NOTE 35.

FURNACES IN NORTH AND SOUTH CAROLINA, GEORGIA, ALABAMA, KENTUCKY AND TENNESSEE.

Furnaces in 1728. Names not given. Pig iron then exported. (Sw., 273.)

JOHN WILCOX FURNACE. No date. On Deep Run.

VESUVIUS FURNACE, on Anderson's Creek, 1780 to 1873. (Sw., 273.)

SEVERAL FURNACES on Cape Fear, Yadkin and Dan Rivers. Before Revolution, according to Bishop. Note on Moravian settlement near Yadkin River in Surrey County. (Sw., 273.)

BUFFINGTONS FURNACE, 1773. N. W. part of South Carolina. Destroyed in Revolution. (Sw., 276.)

No furnaces existed in Georgia, Alabama, Kentucky and Tennessee, during the period of the manufacture of decorated stoves in Pennsylvania. First furnace in Georgia, 1832; in Alabama, 1818; in Kentucky BOURBON FURNACE in 1791, and in Tennessee in 1790. (Sw., Chapter 28.)

NOTE 36.

JUNK DEALERS AND STOVE PLATES.

With a few exceptions, no individual in Pennsylvania dwells in the house of his ancestors. Families multiply and continue, but the old dwelling, indivisible among heirs, sold and resold, in a few generations passes into new hands, who in turn soon sell it again. Original family heirlooms, books, samplers worked by loving hands, toys of children, furniture, clocks, all of the agricultural implements, with the ancient tools and utensils are soon scattered.

An immense mass of ancient objects became obsolete about 1860 to 1880 and were destroyed, or sold in the so-called "penny lots," at innumerable sales to native junk dealers, who, impelled by a desire to find scrap iron, or discover new uses for old

things, saved thousands of cast off utensils, and piled up what they did not destroy, in scattered heaps upon their premises.

These men were followed about 1900 by Jewish peddlers fresh from Europe, who with lame horses and rickety wagons, traveled from house to house, as buyers of bones, paper, bottles, carpets and old iron, while a growing avaricious band of "antique" furniture dealers from country towns and cities sought out country sales as prominent buyers of tables, chairs, sideboards, "highboys," cupboards, clocks, etc., so that by 1914 a farm house possessing any considerable number of heirlooms has become a remarkable rarity.

Notwithstanding these changes, the circumstances of the finding of the stove plates show that many of them have remained in or near the premises or original house of their first use. Very well adapted by their rectangular shape, flatness and great weight, to various service upon the farm, many of them were set up upon four piles of bricks as chimney covers. Many were used as flagging for kitchen porches, as gutter lids, as stepping stones, or as drip stones to protect the sod at house corners from the splashing of water spouts, or most frequently as hearth pavements in large ancient kitchen fireplaces, where these latter, furnished with wooden doors, and perforated with stove pipe holes, for modern coal stoves, remained on the premises as fixtures. When found by the junk dealer, they were wanted by their owner. When discovered by the collector lying face downward in the hearth ashes and pried up with staves or crow bars, their long buried pictures and inscriptions were as great a surprise to their owners as to any one else.

Newspapers began to notice them and museums and collectors to gather and buy them at high prices, after about 1910.

On the other hand a great many of the plates have been bought at sales by farmers, to be used as above indicated on new properties, and when found therefore, cannot be associated with the place of discovery. Neither should we without positive proof infer that a stove plate was cast at a certain furnace because found near it, since abundant evidence from the marked plates shows that probably all the colonial furnaces in Pennsylvania not only cast stoves but frequently imported their wares into the territory of their rivals.

NOTE 37.

EARTHEN STOVES.

Throughout Northern and Central Europe, except Britain, recently or until about 1890, travelers have noticed in public buildings, hotels, dwellings and farm houses a great variety of house warming and cooking stoves built of tiles, bricks or plastered masonry, frequently lacking smoke pipes and fuel doors.

With one or more second stories or heat retaining apartments, frequently in close connection with horizontal or vertical or irregular and tortuous, internal smoke passages, or lacking the latter altogether, they are sometimes built in close connection through their fire chamber with the cooking hearth of kitchens in adjacent rooms. Through fuel doors or passages pertaining to these cooking ovens their fuel is fed from the outside of the room containing the stove and therefore the latter fails in ventilation like a modern American Radiator. Sometimes on the other hand the fuel door is inside the room and therefore ventilates it as does an American iron stove.

Near Bielostok, in the Russian Province of Grodno, according to the information of recent American emigrants at Doylestown, Pennsylvania, themselves stove builders, these stoves are now, 1914, constructed of bricks, so as to form the entire partition between two rooms, thus heating both, and equipped with vertical or horizontal internal smoke canals, partitioned with long flat roof tiles, running back and forth, five or six times the length of the stove. In East Prussia, according to similar information, they are built of bricks set on edge with or without internal smoke canals.

In Tyrol specimens are seen built of masonry or possibly iron rods or wattles smeared with clay or plaster.

Where they are built of tiles the latter are frequently saucer-shaped for increased radiation of heat, or made with wide transverse rims pierced with holes to permit fastening together with twisted wire, so as to facilitate construction and minimize the frequently recurring cost of repair, while preserving the needed thinness for radiating heat.

In many cases short, quick fires of about two hours' duration, after which the fuel door and smoke egress are closely and ingeniously damped, by inserting double lids through side doors in the flues, or by luting with sanded clay as in a potter's kiln, retain the heat in these stoves without fire for from ten to twelve hours. Furthermore fires built of small waste rubbish, inadequate with the old American quick cooling wood stoves, suffice to heat these heat-retaining earthen structures at a great saving of small fuel otherwise wasted.

The tile stoves of the 18th and 17th centuries are frequently glazed with the translucent green glaze probably derived from copper known to the Moors, and surviving upon the modern peasant wares of Spain, and though the modern specimens

show the artistic degredation of the 18th and 19th centuries, and though those recently on sale in the warehouses of Vienna, Munich, Berlin, etc., seem to have reached the climax of ugliness in form and color, the earlier tile stoves of the 16th and 17th centuries, such as the beautiful example in the Castle at Salzburg, and some of the richly enameled stoves in the Germanic Museum at Nuremberg, are splendid examples of the potters' art.

The Museums of Europe possess still older stove tiles of the 15th and 14th centuries sometimes modeled in high relief within deep concavities adorned with architectural filagree, and that earthen stoves were in use long before the invention of cast iron stoves is well known. The loose stove tiles of concave gothic pattern excavated from the ruins of the Castle of Tannenberg [104], near Frankfort-on-the-Main should unquestionably be dated from the time of the destruction of the Castle in 1399, but the general history of the subject is complicated by the fact that there seem to have been no house chimneys in Europe before the 11th or 12th century, so that we would have to imagine earthen stoves, if of older date, standing like braziers in a room free of its walls, and emitting their smoke through roof-holes, as did the open fires of that earlier time. Further than this, earthen stoves have been found in sites belonging to prehistoric time, though the evidence of chimneys in their case has gone.

On the other hand, the probably very ancient Chinese hong, which are low brick stoves used for seats and beds, with tortuous internal smoke canals and fed with wood fuel from out or inside the room, have chimneys, in 1911, according to the information of Dr. Edgar Geil, as high at least as the low side walls of their houses. Beckman, in his History of Inventions, denies the existence of chimneys in ancient Rome, but there is no question about their use on potters' kilns and industrial furnaces before the Middle Ages, while it is impossible to suppose that the Roman hypocausts, which were large cellars used as ovens to heat the floors of houses and baths, had no chimneys and—hence, filled everything with smoke.

There is a tile stove, Figure 187, at the Moravian Historical Society Museum at Nazareth, Pennsylvania, made by a Moravian potter at or near Bethlehem, probably before 1800 and now regarded as a great curiosity. And some loose stove tiles preserved in the Young Men's Missionary Society rooms at Bethlehem, indicate that, as Dr. Oerter informs the writer, numerous other tile stoves were in use among the Moravians in the 18th century near Bethlehem.

Two other tile stoves still preserved in the Wachovia Historical Society at Winston-Salem, North Carolina, show that these stoves were also used there until about 1850 to 1860.

The Russian stoves of earthenware introduced into Salem, Massachusetts, by Captain Solomon Towne (see Sidney Perley in Essex, Massachusetts, Antiquarian, December, 1897, page 183), did not appear until 1812. Otherwise no evidence has appeared to show that earthenware stoves were ever made in the American colonies before the Revolution.

The colonists and their descendants, though they continued to use wood-burning iron stoves until long after the introduction of coal-burning iron stoves about 1820-30, though they occasionally constructed wood-burning furnaces for house heating in the 19th century, never ceased to waste wood. They had no occasion to economize it in stoves, and, according to the evidence thus far found, even after the Revolution never constructed an economic stove on the old European models; and the American who abandoned iron wood-burning stoves and open wood fires for coal stoves, hot air and steam radiators, in the 19th century, while recently returning to the fireplace for ventilation, looks, or should look with admiring wonder on these earthen stoves, which embody several of the most valuable principles of scientific heating.

They illustrate the great superiority of clay to iron for heat retention, the conservation of the heat of smoke, the principle of holding heat without fire, impossible with coal on account of poisonous gases, the heating of two or more rooms with one stove, the use of one stove for cooking and house warming, and the utilization of waste wood and rubbish not serviceable for the quick cooling iron wood-burning stove, as fuel.

NOTE 38.

VARIED SHAPES OF STOVES.

In a great majority of stoves of both ventilating and non-ventilating types the heating capacity was much increased by one or more upper stories, aufsatz in German, sometimes built against the wall through which the smoke passed before leaving the room; sometimes these upper stories were of iron. Sometimes, see Figure 7, of tiles or bricks, or, according to Dr. Kassel, of clay reinforced with wattles or straw. In Alsace again, according to Kassel, the upper stories were sometimes boxed or panelled away from the smoke so as to form smokeless drying-boxes or ovens. Sometimes draft stoves were built against the wall and sometimes jamb stoves were supplied with a smoke pipe appearing in the room and entering the wall above the structure. And sometimes these Alsatian wall or jamb stoves, according to Kassel, included extra iron fire chambers, on the other side of the wall, outside the room heated, and used for cooking.

Bickell says, page 6, that in the 17th century in Hesse appeared Querofen—square stoves, Pyramidenofen—pyramid stoves, and Windofen—wind or

draft stoves, and, according to Wedding, round, cylindrical stoves with one or more upper stories, sometimes called Pommerofen—Pomeranian stoves (see Figure 225, and as figured by Dr. Kassel as another type of wind stove), appeared about 1725-30. The great Castle stoves cited above at Coburg, Schmalkald, Rapperschwl, Spangenburg, etc., were probably made of a dozen or more plates with double or triple stories polygonal in form, while the later (1630 to 1700) stoves of rectangular box form with two stories (and rarely with one, as here chiefly described) consisted of from five to ten plates.

NOTE 39.

MOULDS FOR FIRE BACKS.

In England a specimen has been heard of in the possession of the Hastings Museum and two mentioned by Starkie Gardner (Iron Casting in the Weald, Archeologia, 2d Series, Vol. 6, page 162), as belonging, in 1898, to Mr. Willett, and to Lord Ashburnham (the latter used in the Penshurst foundry in 1811). All are moulds for firebacks, not stove plates.

NOTE 40.

IRON CASTING UNKNOWN TO THE ANCIENTS.

That is to say, the pouring of molten iron into moulds of sand or clay. But this operation was unknown to the ancients, who were masters of the crafts of casting the alloy of tin and copper called bronze, and that the iron workers throughout the Middle Ages could only hammer and never cast iron seems a remarkable thing. The celebrated iron pillars at Delhi and elsewhere in India are of wrought iron, and no certain evidence exists that either the Chinese or Europeans had discovered the art of iron casting before the year 1400.

NOTE 41.

IRON STOVES IN GERMAN FAIRY TALES.

In his notes upon an iron stove, which appears in the old Schwerin fairy tale of the Goose Girl, into which the betrayed Princess creeps to tell her secrets, Wilhelm Grimm says nothing as to the kind of stove referred to, nor the date which any iron stove would fix for the incident if not for the whole tale. But because of the fact that the king listens at the stove pipe (ofenrohre) we must suppose that the original story teller meant a draft stove. On the other hand, in the tale No. 91 of the elves, the stove, which may have been of tiles, must have been a wall stove, since when the three princes relate their secret to it the king "went out" and listened at the door, as if the stove door, as in a five plate non-ventilating stove, was outside the room.

NOTE 42.

OLD GERMAN FURNACES.

According to the guide book of the Bavarian National Museum, for 1903, page 183, there was an old stove-making furnace at Rothenburg on the Tauber, and another at Hohenaschau in Southern Bavaria which worked in the 16th century.

According to Kassel, Beck and Wedding, old stove-making furnaces existed in Nassau at Nuenkirchen, Saarbrucken, St. Ingbert, Halbergerhutte, Weilmuenster, Ottweiler, Siegen and Budigen; in the Palatinate at Quint, near Trier, at Fishbach, Schonau, and Geislautern, in Solm, at Usingen, in Flanders at Rienfronde, St. Dizier and Cousance-aux-Forges; and in Lorraine at Oettingen and Mutterhausen, in Champagne, in Holland, and in Alsace at Jagerthal, Merzweiler and Zinsweiler, where they were still casting jamb stoves in 1903.

NOTE 43.

EUROPEAN COLLECTIONS OF STOVE PLATES.

The private German collections of Messrs. E. Schott, at Ilsenburg in Hesse; George von Collin, at Hanover, and of Mr. G. Lueders, are noted by Beck, and museums containing stove plates at Munich (Bayrisches National Museum), Nuremburg (Germanic), Berlin (Markish), Amsterdam (Rijks Museum), Weisbaden (Alterthums), and at Frankfort-on-the-Main, Lubeck, Stuttgart, Altona, Flensburg, Zurich, Mayence, Osnabruck, Stein-Antwerp, Utrecht and Erbach.

The splendid plates designed in the 16th century by Philip Soldan at Frankenberg in Hesse, described by Bickell, appear in many museums, but probably the finest series of them, forming the most interesting collection in Germany, has been collected by the Hessian Historical Society at Marburg.

Kassel notes collections in museums in Alsace at Metz, Colmar, Zabern, Strasburg, and Muhlhausen, and others are referred to by Fisher, Ferron, Sibenaler and Benoit, at Esch and Arlon in Luxemburg, at Metz, in Loraine, and in Northern France at Nancy, Luneville, Bar-le-duc, Poictiers, Beaume, Moulins, Montauban, Longwy, St. Die, and at the Louvre, Cluny and Carnavelet Museums in Paris. Many of the French and Flemish collections consist largely of firebacks, or the peculiar radiating fireback partitions called "taques." See Figs. 218 to 221.

NOTE 44.

CONFUSION OF STOVE PLATES BY WRITERS.

A good many of the writers have confined themselves to the artistic side of the question almost ex-

clusively. Gardner, in Archeologia, Vol. 56, p. 133, confuses stove plates with firebacks, iron plates set in the open fireplace back of the fire, and fails to note the existence of decorated stove plates of this kind. Further confusion appears in the description of the Belgian and French writers, who sometimes refer to stove plates as if they were firebacks. Sometimes they present illustrations of the plates with edges trimmed by the photographer so as to obliterate their distinctive character, or refer to the very curious kind of Flemish iron partition set back of an open fire in Flanders so as to throw heat through the wall into another room and sometimes decorated on the reverse side away from the fire, as if it was a common fireback. See Figure 218.

NOTE 45.

OLD FURNACE AT OBEREICHSTATT.

Dr. Kohler, in Volkskunst und Volkskunde, Munich, Seyfried & Co., 1909, finds still in existence an old furnace at Obereichstatt, in the Altmuhlthal, near Treuchlichen, in Bavaria, where old jamb stoves had been cast until about 1850. They were decorated with Catholic, classical and mythological subjects, and occasionally Biblical scenes. Patterns representing St. Hubert, Madonnas, Samson, Coats-of-arms, the Flight into Egypt, or St. George, filled the whole plate without borderings. A series of designs, adopted from carved gems in the wedgwood manner, appeared after 1817. A wooden pattern, made in the last decade of the 17th century probably, was found for the St. Hubert design, and the illustration shows that in the Samson plate, dated 1731, the 17 of the original mould and the 31 had been stamped as loose stamps upon the sand before the impression of the main pattern, which crosses the line of the date.

The earliest furnace records, beginning in the last decade of the 17th century, were lost, but the names of some of the old mould carvers in the 18th century were found to be Caspar Eychern, Franz Schwanthaler (father of Ludwig Schwanthaler), and Ignaz Breitenauer. One C. E. had been paid for carving six new letters "Zur schmalz." (Upon the grease.)

NOTE 46.

SURVIVAL OF ANCIENT STOVES.

Kassel says that in 1905 there were a hundred and ninety-eight (jamb) stoves in situ in thirty-three villages near Hochfelden in Alsace, of which Dunzenheim had 51, Lasolsheim 20, Melsheim 15, and Waltenheim 14.

The German magazine Volkskunst und Volkskunde, of Munich, No. 6, 1909, page 78, has a notice with five illustrations of old iron stoves photographed in situ, during the rebuilding of houses, for a carpenter's guild-house on the corner of the Obstmarkt and Carolinen Strasse at Augsburg. Three of the stoves had second stories of tiles. Two were dated 1804 and 1805. Two of them were entirely of iron. All were presented to the Historical Society of Augsburg.

Dr. Ludwig Beck, in his Geschicte des Eisens, Brunswick, 1893-95, page 307, describes the stoves referred to in the text and a number of interesting single plates at private collections and museums. He notes a complete ancient iron stove dated 1529, with two upper stories, decorated with the figures of Christ crowned with thorns, the Madonna, St. Christopher, angels, and the arms of Bavaria, under Gothic canopies, at the Castle of Trausnitz, near Landshut, in Bavaria.

There is another complete stove with a figure of Lucretia and a Creation of Eve, dated 1564, in the Buttler Castle at Riede, and another, also dated, with the Woman of Samaria and Adam and Eve, in the Luther chamber at the celebrated Wartburg Castle near Eisenach, in Saxony. Patterns illustrating the Judgment of Solomon, Daniel in the Lion's Den, and a number of armorial shields, decorate an immense iron stove with hexagonal upper story and polygonal base, dated 1572, in the grand saloon at the town hall of Rapperswyl, on Lake Zurich, in Switzerland.

No lover of decorative art, who has the opportunity, ought to miss seeing the splendid stove adorned with a Nativity and Creation of Eve, at the Castle of Spangenburg, thirty miles southeast of Cassel, or another remarkable stove, with second story and a mixture of 17th century designs, with earlier patterns by Soldan, in the grand hall of the Williamsburg Castle at Smalkald. A splendidly decorated complete stove, upon which the master Soldan has repeated with variations a design on the stove at Spangenburg shows the Nativity and Creation of Eve, together with patterns illustrating the Siege of Bethulia, and the death of Holofernes, with the initials PS and JP. Probably cast at Usingen in Nassau between 1537 and 1555, it stands in the Rathshaus at Wolfach in the Black Forest (Beck 298). One of the richest of all the Soldan stove patterns, illustrating the Parable of the Rich Man and Lazarus, of which Bickell has illustrated a replica (Eisenhutten des Klosters' Haina. L. Bickell, Marburg, 1889, page 16, plate 7) in the Marburg collection, with medallions and the names of Peter Rosenhausen and Koret Scharpe, stood, in 1889, in the church library at Fritzlar, near Cassel.

NOTE 47.

THE STOVE IN THE STORY OF THE GOOSE GIRL.

As if no one would comprehend this stove incident in the story of the Goose Girl, the first translator of Grimm's tales into English (see Popular

Stories collected by the Brothers Grimm, reprint of the first English edition of 1823, with 22 illustrations by George Cruikshank, Frowde, London, 1905, page 193), omits it altogether.

The translator of the American edition (German Popular Tales, with illustrations by Edward H. Wehnert, Philadelphia, Porter & Coates, 1880, page 103) transforms the stove into a fireplace.

NOTE 48.

CARVERS OF STOVE MOULDS.

As follows, namely, the carvers, Philip Soldan, of Frankenburg, in Hesse, about 1530; Jost Luppolt, 1580 to 1600; Jost Shillink, of Imphausen, 1576 to 1606; Reinhart Schenk, 1559 to 1573; Heinrich Gockler; Johannes Ludekind; Conrad Luckeln; Bastian Platzen, 1614; Herman Mullern, 1624; Curt Bach, 1650; Master Aldar, 1650; Master Lipsen; Benedictus Shroder, 1680; Peter Sorg, Philip Sorg, of Weilmunster, in Nassau, 1561, previously at Kraft, Solms; the casters, Peter Rolshausen, Kurt or Conrad Scharf; and the ironmaster, Johan Conrad, also caster at Braunfels in 1672.

A number of double or single letters or monograms remain to be noted, as follows: F for Fishbach, AZ for Aus Zinsweiler, where, according to Kassel, not one-tenth of the plates were identifiable by marks, and then generally after the middle of the eighteenth century; ZW for Zinsweiler Work, the sun or horn as armorial emblems of the Dieterich family of ironmasters at Zinsweiler; the word Niederbron, in recent years, after 1860; W or I N W for in Weilburg; CS or Ks for Curt Scharf; H, RW, HP, SS, LB. AK. E. ST. HCH. FS. C. LL. 1666. BL. 1684 and 1691. SH. GH. HW. on the Samaritan plate with W 97, GD. on another Samaritan plate, GD. W 98 on a Pharisee plate, ISB and the interlocked monograms CIF. IS. HAF. on a Cana plate.

Some of the Nassau plates, as illustrated by Wedding, and a great many of the Norse plates, described by Fett, show the circle with the cross or diagonal spear as the mediaeval symbol for iron.

NOTE 49.

SAMARIA PLATE AT METROPOLITAN MUSEUM IN NEW YORK.

A Samaria plate, dated 1613, now in the Metropolitan Museum at New York, Museum No. 7789-1, though varying in all the details, closely resembles this plate in composition. Recently purchased in Europe, it lacks the characteristic marginal notches of the old German stove plates, and may be a modern recast.

NOTE 50.

THE PENNSYLVANIA GERMANS.

Early in the 18th century, the people now called Pennsylvania Germans came to Pennsylvania, generally by way of Holland, from the Rhenish Palatinate, Switzerland, Southern Germany and Silesia, to escape religious persecution. They came to practice what Christianity preaches, to live according to the inner rule of conscience which could not be compromised with, without police, jails, legislatures, elections or the outward forms of government.

They refused to swear, fight or hold slaves; did not wish to vote, avoided law suits and took little interest in politics and the Anglo-Saxon government around them.

The religious sects, of which they were and are composed, should not be classed together, but might reasonably be divided into liberals and conservatives.

The former, as Lutherans and Moravians, have held to music, letters, history, a knowledge of Germany and a system of foreign missions. Continually replenished by modern emigrants from Europe, they have adapted themselves more or less to American life.

But the latter class, as Mennonites, Amish, Schwenckfeldters, Tunkers, and other minor sects, isolated for two hundred years in the hills of the Alleghanies, have forgotten Germany without becoming Americans. They have forsaken the decorative arts brought over by their ancestors, and avoided letters, learning, architecture, music and the higher arts, but unlike the modern German emigrant, who seems anxious to forget German and learn English, they have maintained their ancient language, though rather as part of their religion than for love of Germany.

Unlike the Boers in South Africa, these people avoided slavery, but, while the Quakers distinguished themselves by opposing it, the Pennsylvania Germans exerted no shining influence upon the ideals of American life by their antagonism of the practice. On the other hand, as negroes avoided their country, their doctrine of human brotherhood has not been tested by contact with the black race. Farmers they came and farmers they have remained, good and thrifty, but not inventive. Where otherwise they have distinguished themselevs by riches or achievements, no rumor of sordidness, stinginess or hypocrisy has attached itself to them; but their lives and work pass into the tale of the general prosperity of the United States, and do not stand for the furtherance of the religious ideals of their ancestors.

The English speech of the Pennsylvania German betrays him with a genial and very marked accent and his original South German dialect corrupted with English words and divested of the gender and inflection of high German, echoes in a familiar and peaceful and what might be called a very non-Italian sing-song, free of harshness and anger to the ignorant English ear.

Because he called himself Deutsch, the early English settlers, without thought of Holland, called him "Dutch" and the name still clings.

The worldly success and rapidly acquired riches around him, have tempted him, modern bad taste has seized him and American newspapers have encroached upon his ideals, but his high rule of conduct between man and man, which is the aim of all governments, remains. This is his great achievement. Nevertheless, remaining apart and still regarded as uncouth, he has failed to conspicuously inspire or influence the Anglo-Saxon.

The modern American flushed with success and seeing the future salvation of mankind in democracy, overlooks these Christian brothers, and the Socialist or so-called Progressive in 1914 presents as new problems to the world, civic questions which they have been living out for themselves for two hundred years.

As Pilate asked, "what is truth?" the modern philosopher confronted by the materialism of life, may ask, what is success? and whether in the past, government without religion, or religion without government, have not both failed to teach man how to live. Nothing but profound wisdom grasping the meaning of inner movements that have advanced the human struggle in past centuries, could venture to estimate the final effect of this high moral attitude, held generally without letters or learning, on the fate of the United States.

Art had waned in Christendom before the United States was settled. Because where associated with religion, it either died as with the Catholic or Anglican, or was thrown out as vanity by the Protestant, the small but singular importation of decorative art in cast iron, here discussed, as brought over by the Pennsylvania Germans, is very interesting. Strange to say, it came out of the Middle Ages, not through the Roman Catholic Church, but through the Protestant Reformation and Luther's Bible. Essentially German, it is more varied and remarkable than the pottery and illuminated writing that came with it and though rude and uncouth in its decorative treatment, the style of its inscriptions and the arrangement of figures, it is plainly a survival of the ancient German craftsmanship of the 17th century. For one generation at least, it maintained in the American backwoods among the strictly religious settlers, a greater simplicity, directness and sincerity than it perhaps possessed in Germany. Nevertheless, pertaining only to the household and never applied to the decoration of churches or meeting houses, it was a non-essential and though always religious, did not have a lasting hold on the life of the people. Produced from moulds carved by German hands, it was generally made at English furnaces for English ironmasters, who probably took little interest in the inscriptions or meaning of the pictures. Its life was short. With the improved technical skill of the iron caster, the art of the mould carver decreased. Advertisement, and worldliness encroaching upon the ancient spirit, finally prevailed. When the imported German mould carver died, his successors adapted themselves to new conditions. New stoves appeared, which while becoming less German and more American, grew less artistic.

The memory of an ancient and foreign art long the servant of religion, inspired the stove makers, but that passed away one hundred and fifty years ago, and though the story of the Bible thus told, might again ally itself wth the work of any church, no sign of the awakening of such an art at its original source, has appeared. The Pennsylvania German farmer may love the Bible as his ancestor loved it, but he has lost his old art, and his spiritual leaders of to-day, with a few exceptions, whether Lutheran, Moravian, Mennonite or Tunker, have forgotten the pictured stoves and the helpful meaning of their sermon in iron once widely preached in the pioneer household.

NOTE 51.

FURNACES AND FOUNDRIES DISTINGUISHED.

It was the important process of smelting iron direct from the ore, as pigiron or raw material, rather than remelting the metal thus previously produced, that distinguished the blast furnaces properly so called not only from the secondary blast furnaces, called foundries or "cupolas," which did not smelt but remelted iron for manufacturing purposes, but also from the forge, where iron was hammered into the raw material for wrought iron work, known as bar iron. Because the forge was also built in the forest, equipped with a massive smoke stack and blast bellows on a waterwheel, it has sometimes been confused by the uninstructed with the furnace, but the forge as a blacksmith shop on a large scale, which only softened the metal without melting it, equipped with a huge hammer attached to another waterwheel which hammered the metal into shape either directly from the ore (a bloomary), or by reheating the previously smelted pig iron, had nothing to do with the casting of iron, or with the manufacture of any such thing as a stove plate made of cast iron. And when the forge ledgers among the Potts Manuscripts, referred to in the text note the sale of stoves (produced only at furnaces), the entries only signify that forge and furnace were sometimes owned, managed and accounted for together.

Though it appears that the "air furnace" of Colonel Spotswood, at Massaponax, in Virginia, working in 1732 (Swank, 261), may properly be called a foundry, and though the name foundry

was loosely, if not incorrectly applied to blast furnaces in the United States until the middle of the 19th century (Sw., 110), we learn from the information of Mr. B. F. Fackenthal, Jr., that before 1820 there were no true foundries in Pennsylvania, so that during the period of their artistic decoration under consideration, the making of stoves was confined to the furnaces, that is to say, all the stove plates here illustrated, were cast, not at stove works and foundries in small remelting furnaces called "cupolas," but direct from the ore at its first melting, in the original furnace, and close to the site of its excavation from the earth, so that the chemical analysis of these plates, when agreeing with certain deposits of ore, might sometimes show, without further evidence, which furnace made them.

NOTE 52.

LIMITED AREA OF STOVE MAKING IN COLONIAL TIME.

The collection shows that a few decorated plates were made in New Jersey but otherwise the manufacture of the stoves in question, appears to have been confined to Pennsylvania, and no evidence has appeared to show that during the period here considered, namely from the settlement to about 1770, stoves of this kind were made in Maryland, Virginia or Delaware, or the South, or in New York or New England, though some may have been produced in Canada.

No furnaces then existed in Maine, New Hampshire or Vermont, and Massachusetts and Southern New England appear to have been the chief centers of iron making in the American Colonies for a hundred years after the landing of the Mayflower emigrants, and as noted by Swank (page 111), and listed under Note 2, bog iron ore found on or near the surface, or dredged out of ponds and marshes, was smelted at the following furnaces: Lynn Furnace, 1645, abandoned, 1688. Braintree, 1646. New Haven, Connecticut, Furnace, 1658. Despards Furnace in Plymouth County, Mass. (1702, soon abandoned). Six furnaces in Massachusetts in 1619. Kings Furnace at Taunton, Mass. (1724 to 1840). Several furnaces in Massachusetts for making hollow ware in 1731. Plympton or Carver Furnace, 1730. Hope Furnace, on Pawtuxent River, Rhode Island, 1735. Three Furnaces in Cumberland Township, Rhode Island, 1735, abandoned before the Revolution. Lime Rock Furnace, Litchfield County, N. W. Connecticut, 1740 to 1750. Six furnaces in Massachusetts in 1750. Charlotte Furnace at Middleboro, Mass, 1758. Lakeville Furnace, Litchfield County, Connecticut, 1762 to 1830.

Several of these furnaces, like that at New Haven or at Taunton or at the Cumberland Township, Rhode Island Furnaces, gave particular attention to the casting of pots, firebacks and jambs, andirons, kitchen mortars, household utensils, etc., and some it appears were foundries proper, where pig iron previously smelted, was remelted and thus recast. The fireback shown in Figure 201 was possibly cast at Lynn Furnace in 1660 by Joseph Jenks, who had made the mould for the ancient pot illustrated by Swank, p. 112, cast at Lynn Furnace in 1645, and in possession (1890) of Messrs. A. and L. Lewis, at Etna Place, Lynn. Franklin's fireplace, as the advertisement in the original pamphlet shows, was introduced into New England about 1742, and no doubt soon after made there. Moreover there is a remarkable statement in a letter of Robert Child to John Winthrop, Jr., written in Boston, March 15, 1647, quoted by Swank, page 113, saying that "We have cast this winter some tons of pots, likewise mortars, stoves, skillets. Our potter is moulding more at Brayntree." But with the exception of this passage, which according to Mr. Dow, of the Essex Institute, refers to small foot stoves, or boxes for hot embers, there is no evidence that any of the New England furnaces made any stoves at all before 1770, much less any decorated six plate stoves of the type here described, or five plate stoves thus adorned with Biblical pictures, floral patterns or mottoes in German. Numerous inquiries and searches recently made by the author at the New England Historical Society, at Deerfield, and Springfield, at Northampton and Carver, among the antique dealers of Eastern Massachusetts, at Fall River, Taunton, New Bedford; Litchfield, Conn., and Providence, R. I., have failed to find evidence of the existence or discovery of decorated stove plates in New England. No stove plate has been found at Lynn, or Newburyport, or at Portsmouth, New Hampshire, or heard of at the Essex Institute at Salem, Mass., where later in 1819 Captain Solomon Towne, of the ship Galataea, introduced Russian brick stoves (see S. Perley, in Essex Antiquarian, December, 1897), and incredible as it may seem, all the evidence thus far, though negative and liable to be upset at any moment by the discovery of a Colonial New England stove plate, shows, that as old England had done without stoves, so did New England, and that notwithstanding the severity of their winter the New England settlers with firewood in superabundance, and loving the sight of the open flames as their ancestors had done, heated their houses, churches and public buildings, in Colonial times, not with stoves but with open fires.

In Canada on the other hand, where still severer winters prevail, we learn (Swank, p. 348) that at the one and only ancient furnace there existing, the St. Maurice, at Trois Riviers (built in 1737 and abandoned in 1882), stoves were cast in 1749 and then in use all over Canada made, as observed by Peter Kalm then visiting the furnace, in "six pieces separately moulded but fitted together to form a stove about three feet high."

But these stoves, again referred to by Bouchette in 1815, types of which still survive (see Figure 190), known as "box stoves," in old Canadian houses, were undoubtedly not wall stoves of the German type but rather draft stoves with smoke pipe and fuel doors, of the general shape of the Pennsylvanian six plate or ten plate stoves herewith described. And they were undoubtedly not adorned with German inscriptions though we may reasonably suppose that some of the earlier ones may have been decorated with pictorial patterns and inscribed in French.

According to Mrs. Potts-James, Potts Memorial, page 162, a John Potts in 1783 to 1785, tried to introduce five different kinds of cast iron stoves apparently made in Pennsylvania and sent up to Halifax, into Nova Scotia.

Swank notes the following furnaces in New Jersey as in existence during the period of stove decoration, namely Shrewsbury or Tinton Abbey Furnace, Monmouth County, 1682. Hanover or Mount Holly, Burlington County, 1730. Ringwood or Ogdens, near Greenwood Lake, Passaic County (three furnaces and a forge), after 1767; rebuilt by P. Hasenclever, 1768; destroyed, 1776. Oxford, Warren County, 1742. Union, Hunterdon County (two furnaces), 1750 to 1778. Hibernia or Adventure, Pequannock Township, Morris County, 1764. Batsto, Burlington County, 1766 to 1846. Atsion, Burlington County, 1766. Taunton, Burlington County, 1766. Charlottenburg, on Pequannock Creek, 1767. Andover, Sussex County, 1760. Mount Hope, near Rockaway, 1772 to 1825.

Figures 108 and 110 though cast in Pennsylvania were found in New Jersey. Mr. Patrick Trainor, of Doylestown, Pa., informs the writer that he saw decorated stove plates about 1877 in a "scrap" heap at Filmore, Monmouth County, N. J. Oxford Furnace made the fireback shown in Figures 213 and 214 and Figures 173 and 177 were cast at Batsto.

Though there was no German colony in New Jersey it seems probable that some of the other furnaces cast decorated stoves in the general style of those made in Pennsylvania, though the New Jersey Historical Society is ignorant of the fact, and no plates have been heard of by the writer to prove it.

Neither have any decorated stoves, or stove plates of native make, and of the six plate or five plate type under discussion, been found in New York where all the plates, Figures 19, 21, 26, 59, 83, 124 and 126, discovered at or near Kingston, were imported from Germany or Pennsylvania, though Ancram Furnace, Columbia County, 1750; the two Courtland Manor Furnaces, begun and abandoned before 1756; Ward and Coulton's Furnace, or the Sterling Iron Works, 1750; the Forest of Dean Furnace, near Fort Montgomery, Orange County (which cast stoves for the Government in 1776), 1756 to 1777 (Swank, Chapter 12), might have made them.

Maryland Furnaces are noted by Swank as follows: Gwynnes Falls, 1723 to 1730. Mount Royal, 1723 to 1730. Principio, Cecil County, 1724. Kingsbury, Baltimore County, 1745. Eight furnaces in Maryland, 1749 to 1756 and 1761. Lancashire Furnace, Baltimore County, 1751. Old Hampton, Frederick County, 1760 to 1765. Legh, near Westminster, 1760 to 1765. Gunpowder River, 1769. Bush, Harford County, 1769. Elk Ridge, on Patapsco, 1769. Patuxent, Anne Arundel County 1769. York, 1769. Steiners Run, 1769. Green Spring, Washington County, 1770. Mount Etna, near Hagerstown, 1770. Catocton, near Frederick, 1774. Some of these may have produced stoves, but if so the Maryland Historical Society has heard nothing of it, and no decorated plates have come to the writer's knowledge.

In Maryland as in Virginia, North Carolina and farther South where in the milder winters the need of stoves was less felt, open fires were universal. In Virginia Fredericksville Furnace, Spottsylvania County, about 1727 (Swank, 260); Germanna or Rappahannock Furnace, Spottsylvania County, about 1729; Accokeek or England's Iron Mines Furnace, near Fredericksburg, about 1729 to 1753; Massaponax Air Furnace, near Fredericksburg, 1732; Zanes Furnace, Frederick County, before the Revolution, and Isabella Furnace, Page County, 1760, existed during the period in question, but no evidence has appeared to show that any of them cast decorated stoves, which if made at all in Virginia, would have been probably produced at Colonel Spottswood's so-called "Air" Furnace, at Massaponax, above noted, which appears to have been a foundry, rather than a furnace proper, where after its establishment in 1732, according to Swank, sow or pig iron, elsewhere made, was recast into chimney backs, pots, skillets, household utensils, and the so-called "country castings."

NOTE 53.

THE POTTS MANUSCRIPTS.

In about one hundred and twenty daybooks and ledgers of furnaces and forges in the library of the Hon. S. W. Pennypacker, at Schwenksville, Pa., examined for the author by Mr. W. S. Ely, in the summer of 1910, we find that numerous plate stoves were made and sold between 1728 and 1769 at Coventry Forge (representing probably Christine or Redding Furnace, on French Creek, Northern Berks County, founded between 1720 and 1736); Colebrookdale Furnace and Pine Forge, near the present Boyerstown, Berks County, founded, 1720; Mount Pleasant Furnace, near Boyerstown, founded, 1736; Warwick Furnace, on South Branch of French Creek, Northern Chester County,

founded, 1737, and Popadickon, later Pottsgrove or Pottstown, founded about 1744.

Because many of the stoves (five and six plate), are noted as sold in the ledgers of Pine Grove, Coventry Forge and other forges, rather than furnaces, we must infer that in these cases the furnaces, whether mentioned or not, where they were made, and the forge where they could not have been made, were under the same management.

Sometimes the forge was built close to the furnace, as at Antrim, New York, founded, 1750; Shrewsbury, New Jersey; Ringwood, or Ogdens, New Jersey, which was founded, 1740; Union, New Jersey; Charlottenburg, New Jersey, founded, 1767, at Sterling, New York, 1751; Martic, Pennsylvania, 1751; Lynn, Massachusetts, 1645.

Until 1753 all the stoves referred to in these manuscripts must have been types of the five plate non-ventilating "jamb stove" under discussion, though the name "five plate" was never used. The stoves are noted generally as "stoves," without explanatory adjective, never as jamb stoves, and very often from the beginning, though no measurements are ever given, as "large, middling, and small" stoves; or, very rarely and latterly, as "Dutch" (meaning German) stoves; "large Dutch stoves" (Warwick, 1747); "small Dutch stoves" (Warwick, 1760), and "Dutch stove" (Pottsgrove, 1768), no doubt intended occasionally to distinguish them from the "English," or "six plate" stoves, which first appear in 1753.

In that year eleven "small English stoves" are noted as sold at Warwick, followed by twenty "six plate English stoves" made there in 1760, and by numerous "large six plate and small six plate stoves," made at Pottsgrove between 1762 and 1768.

NOTE 54.

STOVES OF UNUSUAL TYPE.

Once only we find "round stove" (evidently a Pommeroffen, or Pomeranian stove of the original German type, see Figure 225), weighing 1,921 pounds, cast at Colebrookdale in 1735; once a "Germantown stove" of unexplained construction at Warwick in 1754, costing two pounds ten, and "2 Moravian stoves" at four pounds and four pounds sixteen shillings each, also unexplained but probably of the type of Figure 227, at Pottsgrove in 1768 and 1769, and two at Warwick in 1767.

Only a few doubtful references are made to the universal decoration of the stoves, as at Popadickon in 1745, and Mt. Pleasant in 1743 and 1744, the names "large carved stove and plain stove" appear, as if not only (carved) decorated, but (plain) undecorated stoves cast from smooth undecorated board moulds, had been made at these furnaces, though no evidence of the latter supposition has elsewhere appeared.

A slab of open sand-cast iron, without marginal border and moulding about two feet square, was found by the writer at Doylestown in 1912. But the plate may not be a stove plate, and no undecorated front plate with the unmistakable guttered rims has yet appeared. On the other hand, it must be remembered that thus far undecorated plates would not have been valued by collectors and dealers, and that as yet no decorated plate of certain American make has been found dated earlier than 1741.

Sheet iron jamb stoves may have been used before 1770. If so, they were made at the forges, not furnaces, and not decorated.

No mention is anywhere made of casting loose rims, necessary to the construction of stoves in the German manner, as above explained, and we must therefore suppose that all these stoves were made with the grooved rims cast solid upon the plates. Neither is mention made of the wrought iron bolts, one of which was necessary for each stove, though at Valley Forge in 1764 "a door for a stove," evidently the fuel door of a six plate stove, and "two iron plates for a stove" are charged in a smith's book, and therefore must have been made of wrought iron.

NOTE 55.

STYLE AND WEIGHT OF STOVES.

In 1747 six large stoves "with holes in the top plates" sold at Warwick, indicate that heat-retaining upper stories of brick, tiles, iron, etc., may have been constructed upon them, otherwise no evidence appears that non-ventilating stoves were ever built of more than five plates or with upper stories of iron or earthenware.

The items show that the large five plate stoves generally weighed about 448 pounds, also varying from 406 to 560 pounds and costing generally five pounds Sterling to five pounds ten (Warwick and Colebrookdale), that the middling stoves weighed generally 373 and varying also between 356 and 364 pounds, cost generally four pounds Sterling (Warwick and Colebrookdale), and that the small stoves, weighing generally 320 pounds and varying between 209 and 304 pounds (Mt. Pleasant and Warwick), cost generally three pounds ten Sterling, but sometimes three pounds and two pounds ten.

When 2,240 pounds stood for a ton, 112 pounds for a hundredweight and 28 pounds for a quarter, loose stove plates in greater or less quantity, odd tops, bottoms and sides once referred to (Warwick, 1747), as "top, front, right, left and bottom plates," were sold by the ton or hundredweight or singly, weighing 42, 126, 80 pounds (Colebrookdale, 1733 to 1736), 82, 89, 101 1 3, 151 pounds (Coventry, 1728

to 1729) 55¼ pounds (Warwick), and a "large side plate" 101, and "a large plate" 98 pounds (Warwick, 1748).

Sometimes individuals, for instance Jacob Levant, who, according to the Popadickon ledger, bought fifteen tons of stoves between 1749 and 1753, buy plates or stoves by the ton, or in such quantities or so often, that we may suppose they were stove dealers. Namely, Marcus Hulings (Mt. Pleasant, 1740); Henry Snyder, also referred to as "The Stove Mould Maker" (Warwick, 1755); Philip Metz, shoemaker at Skippach (Warwick, 1750).

NOTE 56.

STOVES WITH UPPER STORIES.

In a Warwick Furnace daybook for August 3, 1747, page 59, the entry reads: "John Hookman, Dr. to 6 large stoves, per Randall Marshall. N. B.—He wanted top plates with holes in."

The top plate of the lower iron fire chamber of the Moravian tile stove at Nazareth (Figure 227) has one if not two holes in it for the smoke egress.

NOTE 57.

IRON MASTERS GENERALLY ENGLISH.

Pennsylvania was an English colony, and if it had not been for the German immigration early in the 18th century, these stoves would never have existed.

Rutter and Potts, founders, of Colebrookdale; Nutt and Branson, at Redding; the first masters of Durham and Keith's, of Warwick, Mt. Pleasant, and if we may except the questionable Kurtz Furnace, were English. And though they must have been familiar with decorated firebacks had probably never heard of jamb stoves in England. But in a colony full of German settlers, they employed German workmen. Jamb stoves were wanted and they made them, putting their construction and adornment into the hands of Germans from the first.

NOTE 58.

FURNACE LEDGERS AT THE HISTORICAL SOCIETY OF PENNSYLVANIA AND NOTE ON CHRISTOPHER SAUER.

About thirty original manuscript Furnace and Forge ledgers and account books called "waste books," "store books," "journals," "coal books," "day books," etc., preserved at the Historical Society of Pennsylvania in Philadelphia (1914) cover the following intervals, in every case incomplete and with numerous breaks represented by missing books. For Elizabeth Furnace 1756 to 1770. For Mary Ann Furnace 1762 to 1765. For Berkshire Furnace 1767 to 1768. For Tulpehocken Eisenhammer (Forge) 1754 to 1760. For Charming Forge 1765 to 1785 and for New Pine Forge 1744 to 1788.

As learned from the Potts Manuscripts we must examine, item by item, not only all Furnace but all Forge account books in order to exhaust stove information from old items of sale, since both kinds of books note transactions in stoves.

Here the forge ledgers of Charming Forge in Berks County (originally Tulpehoken Eisenhammer, called "Charming" in 1763 by Stiegel) accounting for Elizabeth Furnace, and New Pine Forge in Union Township, Berks County, accounting for Berkshire Furnace, note the sale of stoves.

A careful scrutiny of all items in all these books might reveal the names of some of the mould carvers or throw further light on the manufacture of decorated stoves, but the twelve books searched (4 for Elizabeth, 1 for Berkshire, 2 for Mary Ann, 3 for New Pine Forge and 2 for Charming Forge) though revealing the usual stove sale items throw no new light on the subject. "Ten-Plate Stoves" appear at Berkshire in 1767, and "Moravian stoves" (compare Iron fire chamber of Fig. 227). "Seven-Plate stoves" (probably Franklin Fireplaces with double back plates), "Open Six-Plate Stoves" (probably ditto with single back and minus the air chamber), "Clay-Ware Round Stoves" (probably Pommerofen, see Fig. 225 and note 54, lined with fire clay slabs), appear at Elizabeth in 1771.

But we also learn that "Five-Plate stoves" (jamb stoves), "big," "middling" and "small," are sold at Elizabeth as late as 1771 and 1772.

The Elizabeth Ledger for 1771 to 1772 gives the following list of weights and prices for stoves:

Ten-Plate Stoves: Big. Weight 5 cwt. 2 qr. 10 lb. Price 5 Pounds 10 shillings. Small. Weight 5 Cwt. Price 5 Pounds.

Six-Plate Stoves: Big. Weight 4 cwt. Price 5 Pounds. Middle. Weight 2 cwt 3 qr 12 lbs. Price 3 Pounds. Small. Weight 2 cwt. 25 lbs. Price 2 lbs. 5 Shillings.

Five-Plate Stoves (Jamb Stoves): Big. Weight 4 cwt. Price 5 Pounds. Middle. Weight 3 cwt. 1 qr. 9½ lbs. Price 4 Pounds. Small. Weight 2 cwt. 3 qr. 12 lbs. Price 3 Pounds.

Moravian Stove: Weight 2 cwt. 3 qr. 12 lbs. Price 3 Pounds.

Open Six-Plate Half-Stove: (Probably Franklin Fireplace minus air chamber. H. C. M.) Weight 3 cwt. 3 qr. 21 lbs. Price 4 pounds 10 shillings.

CHRISTOPHER SAUER.

A series of vague, unsupported statements in Bishop's History of American Manufactures, Vol. 1, page 182; Swank's Iron and Coal in Pennsylvania, page 19, and by later writers here noted, to the effect that Christopher Sauer, of Germantown, invented or introduced the jamb stove, appear to have been started by Watson, in his Annals, Vol. 2, page 34, who asserts that (inferably about 1770) every house in Germantown "was warmed in winter by jamb stoves, and that Mr. Sauer, of Germantown,

the printer, "cast the first stoves, perhaps thus used in the United States. They were cast in Lancaster. None of them are now (probably about 1820) up and in use, but many of the old plates are often seen lying about the old houses as door steps, etc." Vol. 1, page 218, Waston says that Sauer invented the jamb stove.

But this cannot be true, since we know that jamb stoves existed in Germany since about 1500, and since imported stove plates found in the United States and dated before Sauer came to America, are here shown.

Christopher Sauer, father and son, born near Marburg, in Hesse, in a region where decorated jamb stoves were abundant, may have advised the use of the stoves, and increased their sale, or possibly introduced or invented the outside vertical bolts here described. According to M. G. Brumbaugh (in the "Pennsylvania German" for about 1904.) Sauer came to America in 1724 and if he or his son, Christopher, Jr., had caused the first American stoves to be cast the Potts MSS would probably show it, but though the earliest furnace ledgers are lost, the books note the sale of stove plates in 1728 and 1729 to other individuals. Sauer's name does not appear until 1743, when on March 30, at Mount Pleasant Furnace he is charged with eleven large carved stoves (bought at Marcus Hulings), five small stoves, and some single plates.

NOTE 59.

CONSUMPTION OF WOOD BY CHARCOAL FURNACES.

In England they passed laws against the deforesting by furnaces in Sussex, Surrey and Kent in 1584, and prohibited the charcoaling of beech, oak and ash trees. Evelyn denounced the furnaces.

At the Trois Rivieres Furnace in Canada they preferred deciduous wood charcoal for smelting in the furnace, but used evergreen for the forges.

According to the Lake Superior Mining Institute Proceedings in 1903, it took a hundred bushels of charcoal to a ton of pig iron, or two and a half cords of wood, at forty bushels of charcoal per cord, for a ton of pig iron.

NOTE 60.

DESCRIPTION OF OLD FURNACES.

Pearse says, page 78, that the stack of Cornwall Furnace, built in 1742, was thirty-two feet high, twenty-one-and-a-half feet square at base, and eleven feet square at top.

He shows a perpendicular section of a Lakeville, Connecticut, Furnace, built in 1763, with its greatest diameter inside the egg or "bosh," nine feet, and a height of twenty-eight feet. It was lined with slate smeared with yellow clay, against which the outer wall was constructed of white limestone. The bottom of the interior was built of a special refractory stone.

Swedenborg, quoted by Pearse, page 74, describes the old furnace stacks in general as twenty-five feet high, with oblong openings near the top about four feet long for charging the ore, charcoal and flux. He says the largest bellows were five feet wide, that the ore was roasted at the rate of eighteen pecks to twenty-four bushels of charcoal, that oyster shells, when convenient, were used for flux, and that the furnace was tapped every eight hours.

Swank says, page 87, that some of the lower hearths for about three feet up were lined with sandstone, higher with brick, and that every six days was a "found day."

Dr. James Thatcher, quoted by Swank, page 124, says that Federal Furnace, Massachusetts, built in 1794, had a stone stack twenty feet high, twenty-four feet square at base, seven feet thick, and with an inside diameter of ten feet. It was lined with soft slate called firestone and had a brick funnel at the top. It was arched on the oven front above the tap-hole and also on the side for the two tuyers of the two leather bellows.

In Forges and Furnaces in the Province of Pennsylvania, Colonial Dames, Philadelphia, 1914, interesting halftone cuts from photographs are shown of the ruins as now existing, 1914, of Pine Grove Furnace, Cumberland County, Pa., built 1770 (frontispiece), Hopewell Furnace, Berks County, Pa., built 1759-1765 (page 154), and Carlisle Furnace, at Boiling Springs, Cumberland County, Pa., built 1762 (page 172). John B. Pearse, in Iron Manufacture in the American Colonies, Philadelphia, 1876, carelessly shows a wood cut (frontispiece), of one of the later western furnaces (unnamed) on the Conemaugh River, in Westmoreland or Cambria County, Pa., standing about 1876.

NOTE 61.

BLOWING APPARATUS.

The blowing apparatus of the old blast furnaces was of three kinds, 1, the leather bellows, first used; 2, the blowing tub, or wooden box bellows, and 3, the tromp, or water blast. Pearse, page 101, says that two bellows, rather than one, were used, driven by water power communicated by means of a cam arrangement on the shaft of the great waterwheel. Swank, page 85, quoting Dr. Parsons, says that in the Forest of Dean English furnaces, they had two high pairs of bellows behind the furnace, whose noses met at a little hole (the tuyer) near the bottom, and that they were compressed by certain buttons placed on the axle of a large overshot waterwheel so arranged that as the buttons slid off, counterpoised weights lifted the bellows and played them alternately.

In general, Swank says, page 89, that the leather bellows were twenty-two feet long and made of oak plank two inches thick, at the Scotch furnaces in 1809.

2. The blowing-tub. This it appears was invented by Hans Lobsinger, of Nuremburg, about 1550, used in England in the 18th century, introduced in Pennsylvania shortly before the Revolution and continued in the United States in many furnaces as late as about 1870. Pearse and Swank carelessly fail to explain this interesting and oft referred to apparatus, which was held to be cheaper and more durable than the leather bellows, but it is however fully described and illustrated in the American edition of the noble old Reese's Encyclopedia, article Bellows, plate 13, Pneumatics, Figure 108, as consisting of two large close-fitting wooden boxes, one of which raised and lowered upon the other, and being kept air tight along the cracks by what might be called very flexible wood and leather weather strips set on steel springs, forced out the air which had entered through valves in the bottom box through the tuyer or blast pipe.

Pearse says that these tubs or boxes were of short stroke, three feet, that they generally had one tuyer and rarely two (page 101).

3. The tromp or water blast. This was a very ancient invention by which air was forced or pumped in through a wooden pipe about eight inches square, by the down-rush of water from a tank above and forced into a box five feet long by two-and-a-half high by one-and-a-half deep, where incoming water compressing it, forced it out through the tuyer in a continuous steady blast.

The apparatus had been long used in Southern Europe in connection with the ancient so-called Catalan forge, but the writer cannot learn that it was ever utilized by the older Pennsylvanian furnaces during the stove plate period. Professor Lesley in 1858 describes it as surviving in the Southern States.

NOTE 62.

BOG ORE.

Men in boats with an apparatus resembling oyster tongs used to pull the lumps of bog ore out of Assawamsett, Carver and Middleboro ponds in Massachusetts, the latter of which yielded from three to six hundred tons a year at six dollars a ton.

Pearse, quoting Dr. Thatcher, page 31, says that bog ore occurred along the margin of ponds where there were springs and that it grew or formed in from seven to fifteen years, if the digger covered the hole with leaves and rubbish, but that it would not form if the water were drained off. Some other ore called "pond ore" was dredged out of ponds at depths of from two to twenty-five feet with tongs, and "grew" again in twenty-five years. A man could raise a half a ton a day, consisting of three kinds, the so-called "short," reddish brown and of the size of large bullets; the "pancake," resembling Turkey figs, and the "black," in cakes from the mud bottom.

Dr. Forbes (Pearse 31) asserted in 1793 that "the time will come when it will be as easy to raise a bed of bog ore as a bed of carrots."

NOTE 63.

STOVE MOULDS AND MOULD MAKERS.

According to information from Mr. F. S. B. Reeves, of 45 North Second street, Philadelphia, in 1909, obtained from his grandfather, Benjamin F. Reeves, near Cumberland Furnace, New Jersey, open sand cast stove plates were there modeled (probably the plates of ten plate stoves, H. C. M.), about 1812 by hand upon the sand with little tools mostly of wood. The furnace burned charcoal and used bog ore, and the stove plates were sent to Troy, New York, to be mounted.

The Potts MSS., Warwick Furnace ledger XLI, 1755, page 306, notes "Potts and Rutter Dr. to one large stove, Hen Snyder, the stove mould maker, 5 pounds." And the Popadickon ledger for 1745, Nov. 11, page 5 in account with Warwick Company, notes "To cash for mending stove moulds, 5 shillings."

At the bankruptcy sale of Martic Furnace in 1769 (Swank, 188), according to the inventory the sheriff sold, along with a good dwelling house, stores and counting-house, a large coal house, with eight dwelling houses for the laborers, a good grist mill, smith's and carpenters' shops, six good log stables, with four bays for hay, a number of pot patterns and some flasks for ditto, stove moulds, etc., etc.

NOTE 64.

ORNAMENTAL CAST IRON FENCES.

With notable exceptions, such as some of the iron fences or balustrades cast in the form of conventional foilage or Renaissance filagree about 1840 to 1860, and occasional decorative plaques, such as the small flasked casting of St. John the Divine with the poisoned chalice, about 14 inches square, in possession, 1913, of Miss Annie Bewley, at Forest Grove, Bucks County, Pa., and of which replicas have been heard of by the writer in Philadelphia, in Nantucket, and in Italy at Rome. Pearse says, page 155, that George Keim cast a decorative pattern representing the Last Supper in sand direct from the blast at Windsor Furnace, probably about 1850. This and a cast iron crucifix are illustrated in Forges and Furnaces in Pennsylvania, Colonial Dames, p. 178.

NOTE 65.

JAMB STOVE LEGS, BOLTS, WALL HOLES AND LUTE. FRANKLIN'S DESCRIPTION OF A JAMB STOVE.

No American jamb stove legs or bolts have been found to the writer's knowledge, and as no student has discovered a jamb stove in its original position, we are in the dark, from actual observation as to the exact size and shape of the hole in the wall for the insertion of its fuel.

We may reasonably suppose, however, that the vertical outside bolt was a thin hammered rod with a flattened head below and a thumb screw above, after the style of the shorter diagonal bolts on the old Norwegian stoves as seen in Figs. 5 and 6, and that the hole in the wall was rectangular, of the size of the end of the stove and without a door which would have obstructed the draught.

An old kitchen fireplace, nine feet wide by four feet ten high by two feet ten deep, in the farmhouse of Mr. Lewis H. Clemens, at Doylestown (1914), shows in the lower left corner of its fireback stone wall a walled up rectangular recess nineteen inches high by fourteen inches wide, connecting within with a vertical mural orifice about two inches in diameter passing through it from the cellar as if to increase its draught. This wall recess is four inches from the corner of the fireplace and eleven inches above the hearth, and may well have been the wall orifice for the Dance of Death stove, the plates of which (see Fig. 76) were found on the premises, in which case the stove if resting against the hole, would have probably stood about a foot above the floor of the opposite room.

Since it would have been necessary to lift all jamb stoves above wooden floors for safety, and above stone floors for heat radiation, we may reasonably infer that legs, either of pottery, of iron, of blocks of stone or of masonry, were always used if not at the walled-in end of the stove, certainly at the front where it required support.

Stove legs or stands, truncated cones of red glazed earthenware, four inches in diameter and about six inches high (see Bucks County Historical Society, No. 725), were found by the writer in 1898 at Headman's Pottery, in Bucks County, and there described as sold for use as leg rests for modern kitchen cooking stoves, probably intended to raise the level of the stove and prevent communication of heat to the wood floor. But these stove rests are comparatively modern and no ancient specimens of this shape have been found in association with the jamb stove plates. The Potts Manuscripts and Furnace Ledgers at the Historical Society of Pennsylvania as examined for the writer, make no mention of jamb stove legs of cast iron or other material. But blocks of soapstone were used according to the information of a building contractor in Philadelphia who, in 1889, at a lecture, informed the writer that in demolishing an old house in eastern Philadelphia, once belonging to Governor Mifflin, he had pulled to pieces a complete jamb stove discovered in a walled-up corner, the front of which rested upon two blocks of soapstone.

Since the jamb stove fashion came to America from Germany so the method of equipment with legs must have come with it, and we may suppose that carved stone legs, in the old German style, as

233-a.

shown herewith, in Fig. 233-A, reproduced from Dr. Kassel's interesting picture, illustrating an old Alsacian stove in situ at Farmer Sieh's house, at Waltenheim, in Lower Alsace, in 1903, were sometimes used in Pennsylvania in lieu of simpler posts, props or under rests of bricks or stone. In the picture we see a stove, according to Dr. Kassel, waxed and polished with beeswax, and luted at the corner cracks with a mixture of clay and barley grains, equipped with decorated loose corner rims, and an iron upper story, surrounded where built against the wall by a lintel, forming an upper shelf, but lacking the American outer bolt and supported on a single pair of heavy carved sandstone legs, forming the so-called "postament," sometimes decorated with a date.

Kassel, page 10, see Note 84, says that these arched legs, several of which are illustrated in his valuable book, were sometimes made of earthenware, sometimes of wrought iron, and when thus in arch form of sandstone often decorated with carvings or a date, and sometimes waxed or brown or green painted or marbeled. In the Swedish Stove, Fig. 1, they appear as corner posts of iron.

Franklin, who says nothing of legs, bolts, wall hole, lintel, stove lute, decoration or inscription, describes the old Pennsylvanian jamb stoves in his fireplace pamphlet of 1744 as follows: "The German Stove is like a Box, one Side wanting. 'Tis composed of Five Iron plates scru'd together and fixed so that you may put the Fuel into it from another Room, or from the Outside of the House. 'Tis a kind of Oven revers'd, its Mouth being without, and Body within the Room that is to be warmed by it. This Invention certainly warms a Room very speedily and very thoroughly with little Fuel. No Quantity of cold Air comes in at any Crevice, because there is no Discharge of Air which it must supply, there being no Passage into the Stove from the Room. These are its Conveniences.

"Its Inconveniences are, That people have not even so much Sight and Use of the Fire as in the Holland Stoves, and are moreover obliged to breathe the same unchanged Air continually, mixed with the Breath and Perspiration from one another's Bodies, which is very disagreable to those who have not been accustomed to it."

NOTE 66.

SHEET IRON.

According to Beckman's History of Inventions, all sheet iron, whether tinned or not, before about 1728, was hammered with heavy hammers run by waterwheels. Previously iron could be rolled in small narrow strips, or smoothed by rolling after hammering, but could not be squeezed out into broad flat sheets, hot or cold, between rollers, as now.

NOTE 67.

FRANKLIN'S DESCRIPTION OF DRAFT, OR SIX-PLATE STOVES.

Franklin, in his fireplace pamphlet of 1744, describes them as follows:

"The Holland iron stove, which has a flue proceeding from the top, and a small iron door opening into the room, comes next to be considered. Its conveniences are that it makes a room all over warm, for the chimney being wholly closed, except the flue of the stove, very little air is required to supply that, and therefore not much rushes in at crevices, or at the door when 'tis opened. Little fuel serves, the heat being almost all saved, for it rays out almost equally from the four sides, the bottom and the top, into the room, and presently warms the air around it, which being rarified rises to the ceiling, and its place is supplied by the lower air of the room, which flows gradually toward the stove, and is there warmed and used in its turn, so that there is a continual circulation till all the air in the room is warmed."

"The air, too, is gradually changed by the stove doors being in the room, through which part of it is continually passing, and that makes these stoves wholesome, and at least pleasanter than the German stoves, next to be spoken of. But they have these inconveniences—there is no sight of the fire, which is in itself a pleasant thing. One cannot conveniently make any other use of the fire but that of warming the room. When the room is warm, people not seeing the fire are apt to forget to supply it with fuel till 'tis almost out, then growing cold, a great deal of wood is put in, which soon makes it too hot. The change of air is not carried on quite quick enough, so that if any smoke or ill smell happens in the room, 'tis a long time before 'tis discharged. For these reasons the Holland stove has not obtained much among the English (who love the sight of the fire), unless in some workshops, where people are obliged to sit near windows for the light, and in such places they have been found of good use."

But this description (which reappears in Chambers' Encyclopedia with Reese's Supplement, London, 1788) may refer to the Holland stove as then used in England rather than in America.

NOTE 68.

STOVES IN VIRGINIA.

Timothy Pickering saw what he calls "a German stove," no doubt a six-plate stove, in the house of a German woman at Yorktown, Virginia, in 1778. See Life of Timothy Pickering, Vol. 1, page 207.

Lord Botetouts' stove (see Figure 233), now preserved at the State Capitol at Richmond, was not made in Virginia, but imported from London in 1770.

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NOTE 114.

RIGHT AND LEFT PLATES NOT ALWAYS DUPLICATES.

The extended Biblical quotations on the floral patterns for jamb stoves, Figures 108 and 139, would have required three plates for their completion; hence the right and left plates could not have been duplicates, but must have varied in their inscriptions.

NOTE 115.

The first stove plate ever seen by the writer (probably the Judge Not Plate, Fig. 98, and probably before 1895) was at the house in Buckingham of Captain J. S. Bailey, after which the S. F. Plate, Fig. 96, presented to the Bucks County Historical Society by Mr. Patrick Trainor, was described as part of the Collection of Pioneer Implements made by the writer in 1897. In various notes on the collection, published in the Bucks County Intelligencer in 1898, and in particular "Durham Stove Plates," Intelligencer, March 23, 1898, soon after printed as a separate undated leaflet called "Decorated Stove Plates of Durham, Contributions to American History by the Bucks County Historical Society, No. 5," and in the catalogue called "Tools of the Nation Maker," printed for the Society, Intelligencer, Doylestown, 1897, the writer, ignorant of the construction of the ancient stoves, supposes all of them to have been made at Durham Furnace.

But the construction of the stoves was soon afterwards explained by the writer in "Decorated Stove Plates of the Pennsylvania Germans, Contributions to American History by the Bucks County Historical Society, No. 6," written for the Society by February 14 and April 7, 1899, and published by McGinty, Doylestown, in 1899.

The subject is not discussed in the first edition of Davis's History of Bucks County, but in the second edition, Chicago, Lewis & Co., 1905, Vol. 2, page 148, two pages of confused and mistaken statements (asserted to have been obtained from "records and correspondence compiled at the Furnace in its historic period") as to extra doors above the fuel doors in Franklin stoves, fuel doors in "Adam and Eve" stoves (Figure 41) and Swedish words or "Scandanavian spelling" used in the stove inscriptions appear. All four of the German inscriptions are either misread or mistranslated.

The author of the history then, 1905, President of the Bucks County Historical Society, ignores the pamphlet, "Decorated Stove Plates," above noted, written for the Society six years before, but appropriates, without acknowledgment (page 150), one of its illustrations, a cut of the Cain and Abel Plate, appearing on the first page of the pamphlet.

NOTE 116.

VARIOUS NAMES OF THE JAMB STOVE.

As little has been written on the subject, these names originating in America are not sanctioned by much authority. All are unsatisfactory.

"JAMB STOVE" was used by Watson in his brief notices in Annals of Philadelphia. But the stoves notices in Annals of Philadelphia. But the stoves were not always built into the jambs or side walls of fireplaces, but probably often into the "back," or wall back of the fire. The name "FIVE PLATE STOVE" appears in old furnace ledgers and account books of the later Colonial period and according to information of the late I. J. Stover of New Britain was anciently used in Bucks County, Pennsylvania. Nevertheless, stoves of this kind, if built, as often in Germany, with iron upper stories, would have consisted of more than five plates. "WALL STOVE" was coined by the writer In Decorated Stove Plates, written in 1897, for want of a better name and in ignorance of the fact that not only non-ventilating stoves of this type but also ventilating stoves, "draft stoves", had been built against the wall in Europe.

The name "GERMAN STOVE" is used by Franklin in his Fireplace pamphlet of 1744 and in the later encyclopedias, but the cylindrical "pommerofen" was also a German stove and "six-plate stoves" of the ventilating type were also used in Germany. As the English settlers called the Germans in Pennsylvania "Dutch", they no doubt often

called this stove a "Dutch Stove" (see Note 53).

For the sake of clearness, the writer has in nearly all cases used the names "FIVE PLATE STOVE" or "JAMB STOVE," as synonyms to describe this stove in these pages.

NOTE 117.

After the foregoing pages had gone to press, the writer learned, on September 19, 1914, from Mr. A. H. Rice, of 35 South New Street, Bethlehem, Pennsylvania, that the latter had found in August, 1914, at a house about two miles from Lebanon, Hunterdon County, New Jersey, rebuilt upon an older house in 1813 and remodelled in 1909, two side plates of the Dance of Death pattern together with a top and bottom, and a front plate (a replica of Figure 63) all fitting together as parts of one stove, here shown in Figure 234.

234.
The Dance of Death.

Complete jamb stove. Size, height 22, width 19½, length 23. Mr. A. H. Rice, Bethlehem, Pa., September, 1914.

One of the side plates stood as a fire-back in an open fireplace, and the other four plates had been sealed up at various intervals in the air space between the lath and plaster crusts of certain interior partition walls.

As no other stove plates were found in the house, we may reasonably infer that the front plate here shown as found by Mr. Rice (easily recognized as a replica of Figure 63) and set together with its fellow plates, was probably in this case furnished by the Furnace in 1745, its date, as the front plate to the "Dance of Death" stove and that if a more significant pictorial pattern had ever existed to fit the stove, the latter was not then in stock at the Furnace.

If so, the entire series of meaningless front plates, Figures 61, 62, 63, 64 and 88-A, may probably be explained as makeshift fronts to pictorial stoves, which would have served any one of many stoves of proper size, regardless of design, and which were intended to take the place of pictorial front plates which either never existed, or which having been burned out or broken, could not be supplied on sudden demand at the furnace.

Front plates, though comparatively rare, probably because half as numerous as side plates in the first place, and also because their grooved rim projections made them objectionable as pavements, have nevertheless been found for several of the stoves, and without more evidence, we may not infer that no pictorial front plate had ever been made in Pennsylvania to still further explain the gloomy subject of the Totdentanz, and that the uninteresting and insignificant Figure 63 was the only front plate ever made or used by the Colonists to fit the stove.

In the well-preserved right plate here shown the word FEIT appears as usual in the inscription, but the words MIT and BRINGT are imperfectly cast or nearly rusted away. The Ns remain upside down and a suggestion of the final T (absent on all the other plates known to the writer) appears upon the final word NO for NOTH.

NOTE 118.

TWO MORE CANA PLATES.

While the present pages are in press (December, 1914) two more very interesting fragments of stove plates have been found and are here illustrated. Figures 235 and 236. Both are front plates of jamb stoves lacking the guttered margins and notched in German fashion at the sides as described on page 7. Both illustrate the miracle at Cana and having been probably imported from Germany before the establishment of Pennsylvanian Furnaces are among the oldest plates shown in the collection herewith described.

235.
The Miracle at Cana.

Fragment of front plate of Jamb stove. Size W. 17 by H. 16, Bucks County Historical Society. Presented Sept. 23rd, 1914, by Mr. A. H. Rice, of Bethelem, Pa. who had found it in August 1914, in an old fireplace on the farm of John Ruch near Springtown, Bucks County, Pa.

Found too late for insertion in its proper place the broken plate here shown should be classed with the earlier plates of Jamb stoves described in Chapter II. as probably made in Germany and imported into the American Colonies in the seventeenth or early Eighteenth Centuries.

The very rusty fragment, which gauged by the distance (doubled) between the comparatively intact right margin of the plate and the center of the lower oval medallion must have been a front plate, shows the remains of a row of wine jars into one of which an approaching figure pours water from a tankard while Christ near a twisted column of the canopy to the right points downward with extended left hand. To the left, not quite obliterated by rust, parts of the bodies of two guests at the Marriage Feast, one bearing a tankard, appear below the break in the plate.

In the central cartouche the letters ISTUS. ROMER. alone are legible, while the legend, in the lower medallion with its leaved border flanked by curved branches with scroll like leaves, has rusted away beyond decipherment.

Because of the superior artistic grouping and modeling of the figures, the style of decoration of the whole lower panel and the bolt notch in the ancient German fashion on the right margin, we may infer that the plate, like Figures 19 to 30 was imported from Germany before the establishment of Pennsylvanian Furnaces.

The writer has preserved a rough sketch of a stove plate described under Figure 48 as seen in 1892 at Rothenburg-on-the-Tauber which because of its closely similar treatment, because of its upper panel, canopied on twisted columns, its central cartouche and lower medallion must have been either a close copy or replica of the plate Figure 235 here shown.

The inscription on the central cartouche of the German plate read CHRISTUS. FROMMER. EHE. LEUTE. TROST. . "Christ The Trust Of Pious Married People," which unquestionably explains the half effaced legend here shown, while the words on the medallion of the Rothenburg plate JOHAN. AM. 2. CAP. CHRISTUS. MACHT. WASSER. ZU. WEIN. translated, "John in the 2nd. Chapter Christ turns water to wine," might well have been duplicated here.

If this plate Figure 235 is a replica of the Rothenburg plate, then it was cast at the old Weilmunster Furnace in Nassau in 1697 (see Figure 49) since the German plate has the words UF. or AUS. WEILMUNSTERER. EISEN. HUTTEN. 1697. translated "From the Weilmunster Furnace 1697," cast upon the frame work of the arches over the upper canopy.

236.

The Miracle at Cana.

(Another version.) Upper half of the front plate of a jamb stove. Size W. 20, H. 15. Isaac De Turck, Friedensburg, Oley Township, Berks County, Pennsylvania. Kindly brought to the writer's attention in 1914 by Dr. J. B. Stoudt, of Northampton, Pa. The plate was found face downward at the opening of an ancient bread oven in the kitchen fireplace, by him and Dr. Isaac Stahr, of Oley, Pennsylvania, at the old homestead of the De Turck family, at Friedensburg, now belonging to Isaac De Turck, in August, 1914.

The rusty and broken fragment shows another version of the Cana Feast generally repeating, without copying, the grouping of Figure 235. The inscription is gone, but we see the wedding table spread with dishes and four seated figures, one of whom seems to be the bride, crowned in German fashion as shown in Figure 29. Three attendants appear in the foreground, one of whom pours the miraculous water from a tankard while Christ, seated at the right, points downward with his left hand.

Life Figure 235 the plate, lacking guttered rims and notched for bolts in German style on both vertical margins, is a front plate, while the decorative treatment of its vaulted canopy, namely the floral festoons, looped curtains, cherubim spandrels, twisted columns and capitals closely resembling that of the well-preserved Oil Miracle plate, Figure 23, proves it to be the companion front plate to the latter, though it illustrates another miracle.

Like Figure 23 it must have been imported from Germany in the late 17th or early 18th century and, like the other imported Oil and Wine plates, Figures 28 and 29, it shows that two different subjects, the Oil Miracle of Elisha and the Wine Miracle of Christ, were here again represented on the front and sides of the same stove.

It should be remembered, at this moment, October, 1914, in the midst of Europe's great war, when Germany, fighting against heavy odds, with her submarine telegraph destroyed, is accused of barbarism by enemies who ignorantly or wilfully have misread her history, that these eloquent fragments have appeared in the ruins of old American houses. Ill use and rust have not effaced their certain evidence of a virtue long ago expressed in the lives and handiwork of pious Germans who lived and died in Pennsylvania rather as Christians than barbarians.

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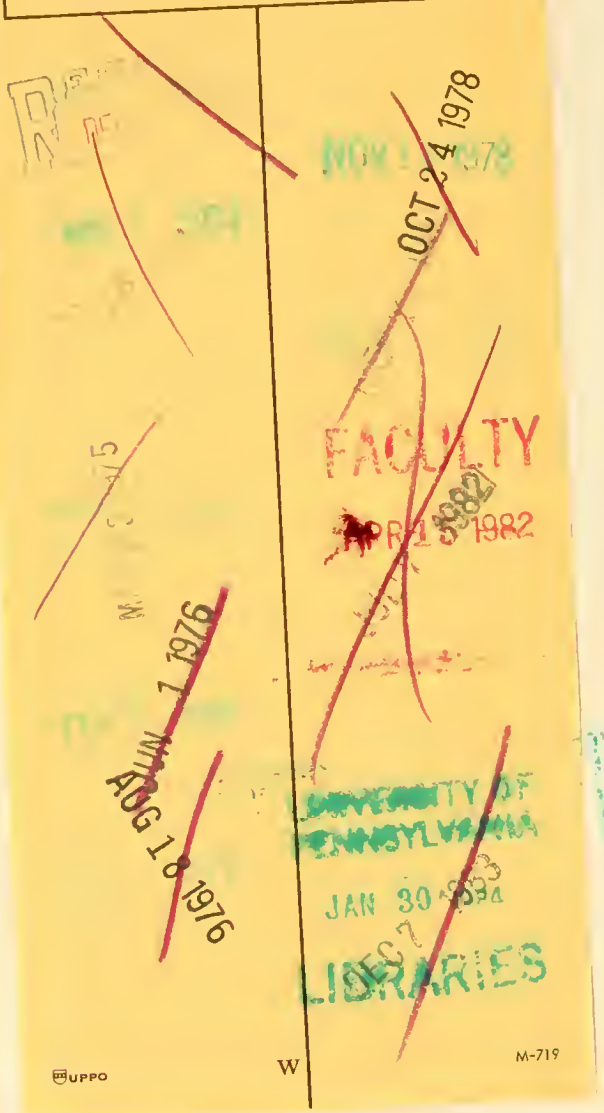

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